

**FINAL Findings of Fact and  
Statement of Overriding  
Considerations**

**Pacific LA Marine Terminal LLC, Pier  
400, Berth 408 Project**

*Subsequent Environmental Impact Report (SEIR)*

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# Findings of Fact and Statement of Overriding Considerations

## I. Introduction

These Findings of Fact have been prepared by the Los Angeles Harbor Department (Port) as the Lead Agency pursuant to Section 21081 of the Public Resources Code and Section 15091 of the State California Environmental Quality Act (CEQA) Guidelines to support a decision on the Pacific L.A. Marine Terminal LLC Pier 400, Berth 408 [Plains] Project<sup>1</sup>. Section 21081 of the Public Resources Code and Section 15091 of the CEQA Guidelines provide that no public agency shall approve or carry out a project for which an Environmental Impact Report (EIR) has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:

1. Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effects as identified in the Final SEIR.
2. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
3. Specific economic, legal, social, technological, or other considerations, including provisions of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final SEIR.

Additionally, the Lead Agency must not approve a project that will have a significant effect on the environment unless it finds that specific overriding economic, legal, social, technological, or other benefits of the project outweigh the unavoidable adverse environmental effects. (Pub. Res. Code § 21081(b); 14 Cal. Code Regs. § 15093.) The Board of Harbor Commissioners (Board) adopts the Statement of Overriding Considerations set forth below, which identifies the specific overriding economic, legal, social, technological, or other benefits of the project that outweigh the significant environmental impacts identified in the Final Supplemental EIR (SEIR).

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<sup>1</sup> The proposed Project includes project elements that will require federal permits from the U.S. Army Corps of Engineers (USACE). As such, an Environmental Impact Statement (EIS) was also prepared for the proposed Project. The USACE and LAHD prepared a joint Supplemental EIS/Supplemental EIR (SEIS/SEIR) in the interest of efficiency and to avoid duplication of effort. The USACE will consider certification and approval of the SEIS separate from the Board of Harbor Commissioner's consideration of the SEIR.

## **Project Objectives**

Anticipating the importance of containerized and liquid bulk shipping, the LAHD, Port of Long Beach (POLB), and USACE conducted a study between 1981 and 1985 to evaluate the capacity of the San Pedro port complex to accommodate cargo forecasts through the year 2020. This study, called “The 2020 Plan,” determined that accommodating the projected increase in throughput would require maximizing the use of all existing port lands and terminals, and construction and operation of approximately 2,400 acres (972 ha) of new land for new marine terminals. The USACE and LAHD continued the planning process, supported by additional economic forecasting, and in 1992, prepared the Deep Draft Navigation Improvements, Los Angeles and Long Beach Harbors, San Pedro Bay, California Final SEIS/SEIR (Deep Draft Navigation Improvements Project SEIS/SEIR; USACE and LAHD 1992). That document analyzed, among other issues, the impacts of the creation of Pier 400 from dredge material and the subsequent construction and operation of a new liquid bulk terminal on the new Pier 400 land. LAHD approved the Deep Draft Navigation Improvements Project SEIS/SEIR on November 18, 1992, and the USACE issued a Record of Decision (ROD) on January 21, 1994.

The Deep Draft Navigation Improvements Project SEIS/SEIR envisioned three uses for Pier 400: 1) an area to relocate existing hazardous bulk facilities away from populated and sensitive use areas in accordance with the approved Port Risk Management Plan (LAHD 1983); 2) a site for a 150-acre (61-hectare [ha]) container terminal; and 3) a site for a new deep-draft liquid bulk marine terminal. The Deep Draft Navigation Improvements Project SEIS/SEIR recognized that expansion and additional improvements were needed to improve efficiencies in handling, storing, and transporting existing and forecasted cargoes, and to provide an area for relocation of hazardous cargo away from critical Port facilities and adjacent communities. It also recognized that national economic benefits and transportation cost savings would result from the use of larger vessels, reductions in transit time, and lower cargo handling costs. Therefore, as a result of creating the Pier 400 landfill for part of the Deep Draft Navigation Improvements project, irretrievable resources were committed by the LAHD. Over three miles of channel were dredged to a maximum depth of -85 ft mean lower low water (MLLW), and dredged material removed from channels was placed in an area of high-value marine habitat.

Circumstances have changed since approval of the Deep Draft Navigation Improvements Project SEIS/SEIR. The need to relocate existing hazardous facilities to Pier 400 no longer existed after the affected facilities modified operations or closed, or the nearby vulnerable resource closed, in each case eliminating the hazardous classification originally associated with the facilities. The second use of Pier 400, for construction of a container terminal, was fulfilled when the Port certified the Pier 400 Container Terminal and Transportation Corridor Project SEIR (LAHD 1999) and approved a 480-acre (190 ha) container terminal which is presently being operated by the APM Terminal (Maersk-Sealand). However, the -85 ft MLLW channel leading from the ocean to Pier 400, which was dredged specifically for deep-draft vessel operations, remains unutilized for its original purpose because no crude oil terminal has been constructed on Pier 400. The proposed Project would fill this need for a deep-draft crude oil terminal within the POLA, consistent with the original use of Pier 400 envisioned in the Deep Draft Navigation Improvements Project SEIS/SEIR.

Although the proposed Project is consistent with the Deep Draft Navigation Improvements Project SEIS/SEIR, the changed environmental and regulatory circumstances and the changed configuration of the current proposed Project from the marine terminal configuration proposed in 1992 have led the USACE and LAHD to prepare a Supplemental EIS (SEIS) and Subsequent EIR (SEIR), respectively.

The overall purpose of the proposed Project is to help accommodate the projected increase in demand for foreign crude oil to be imported into southern California while mitigating the impacts of that activity on

the local environment and the Los Angeles region through adoption of all feasible mitigation measures and by implementing the San Pedro Bay Ports Clean Air Action Plan (CAAP). This purpose requires completing the environmental documentation to assess potential impacts of the proposed improvements (the proposed Project) and feasible alternatives.

The LAHD bases the need for the proposed Project on the following four current conditions: (1) the need to accommodate increasing foreign crude oil imports to offset declining domestic production; (2) a trend toward larger vessels and larger cargo sizes; (3) a projected shortfall in crude oil vessel berthing capacity at the San Pedro Bay Ports; and (4) increased need for crude oil tank capacity for efficient offloading of vessels at berth.

To establish and maximize the Port's crude oil handling efficiency and capacity, the following key Project objectives must be accomplished:

1. Construct a crude oil marine terminal capable of accommodating deep-draft VLCC tankers, i.e., tankers up to 325,000 DWT or 2,300,000-bbl capacity and construct associated infrastructure capacity that would efficiently accommodate a portion of the forecasted increases in demand for crude oil to be shipped to southern California by sea, while maximizing the use of deep-water facilities created for the purpose by the Deep-Draft Navigation Improvements Project and integrating into the Port's overall utilization of available shoreline. The project objective would be accomplished by:
  - a. Providing needed crude oil marine terminal accessory buildings and structures to support efficient crude oil unloading and handling requirements;
  - b. Providing unloading capabilities to promote direct transfer of crude oil from ship to pipeline; and
2. Providing access to land-based tanks and new and existing pipeline systems to transport crude oil to refineries for processing.

## **Project Description**

The proposed Project would include construction and operation of a new marine terminal at Berth 408 on Pier 400 (Marine Terminal), new tank farm facilities with a total of 4.0 million barrels (bbl) of capacity, and pipelines connecting the Marine Terminal and the tank farms to local refineries (Figure 2-1). The terminal would be operated by Pacific Los Angeles Marine Terminal, LLC (PLAMT) under a 30-year lease from the Los Angeles Harbor Department (LAHD). PLAMT is a wholly-owned subsidiary of Plains All American Pipeline, L.P. (Plains). Should the Board of Harbor Commissioner elect to approve the Project, mitigation measures contained in the Mitigation Monitoring Reporting Program (MMRP) will become part of the lease. Enforcement of these lease measures shall be through reporting, conformance actions, should deadlines be missed, and lease revocation where noncompliance cannot be remediated.

The proposed Project would not require any dredging, as Berth 408 already has sufficient water depth (-81 ft mean lower low water [MLLW]) to accommodate Very Large Crude Carrier (VLCC) vessels (up to 325,000 deadweight tons [DWT]), which would be the largest vessels expected to call at Berth 408, followed in order of decreasing size by Suezmax, Aframax, and Panamax-type vessels (see Table 1-1). The proposed Project would primarily receive crude oil and partially refined crude oil. The sole exception is that the proposed Project would also receive occasional deliveries of marine gas oil (MGO), a fuel with 0.05 percent sulfur content that is available in the local market, in order to provide low-sulfur fuel to tanker vessels unloading at the new berth.

The new Marine Terminal would be designed to receive crude oil from marine vessels and transfer the oil to two new tank farm facilities via a new 42-inch diameter, high-volume pipeline. The terminal would be operated so as to minimize the time each marine tanker remains at the berth and would do so with a combination of high capacity pumps, large diameter pipelines, and adequate storage capacity in the tank farms. One of the new tank farms would be located on Pier 400 (Tank Farm Site 1) and the other on Pier 300 at Seaside Avenue/Terminal Way (Tank Farm Site 2). The site of the Marine Terminal and both tank farm sites are owned by LAHD. The proposed Project's new tank farm facilities would be connected to the existing ExxonMobil Southwest Terminal on Terminal Island, the existing Ultramar/Valero Refinery on Anaheim Street near the Terminal Island Freeway, and to other Plains pipeline systems near Henry Ford Avenue and Alameda Street via new and existing 36-inch, 24-inch, and 16-inch pipelines. All new pipelines would be installed belowground, with the exception of the water crossings at the Pier 400 causeway bridge and at the Valero utility/pipe bridge that crosses the Dominguez Channel west of the Ultramar/Valero Refinery.

The proposed tenant, PLAMT, requires a minimum crude oil tank capacity of 4 million bbl to support an economically viable operation. The applicant represents that it has three customers that would utilize a total of 3.5 million bbl of capacity, and PLAMT would reserve 0.5 million bbl of capacity for operational and spot business use. Accordingly, the total tank capacity for the proposed Project would be 4.0 million bbl. Should the terminal operator require more than 4.0 million bbl of tank capacity at a later date, an additional Project approval and environmental assessment would be required at that time.

## II. CEQA Findings

The Findings of Fact are based on information contained in the Draft SEIS/SEIR and the Final SEIR for the proposed Pacific L.A. Marine Terminal LLC Pier 400, Berth 408 [Plains] Project, as well as information contained within the administrative record. The administrative record includes, but is not limited to, the project application, project staff reports, project public hearing records, public notices, written comments on the project and responses to those comments, proposed decisions and findings on the project, and other documents relating to the agency decision on the project. The administrative record for the proposed Project also includes the SEIS/SEIR and administrative record for the Deep Draft Navigation Improvements Project, which were relied upon in preparing the SEIS/SEIR. When making CEQA findings required by Public Resources Code Section 21081(a), a public agency shall specify the location and custodian of the documents or other material, which constitute the record of proceedings upon which its decision is based. These records are in the care of the Director of Environmental Management, Los Angeles Harbor Department, 425 South Palos Verdes Street, San Pedro, California 90731.

The SEIS/SEIR addresses the project's potential effects on the environment, and was circulated for public review and comment pursuant to the State CEQA Guidelines for a period of 75 days. Comments were received from a variety of public agencies, organizations, and individuals. The Final SEIR contains copies of all comments and recommendations received on the Draft SEIS/SEIR, a list of persons, organizations and public agencies commenting on the Draft SEIS/SEIR, responses to comments received during the public review, and identifies changes to the Draft SEIS/SEIR. This section provides a summary of the environmental effects of the project that are discussed in the SEIS/SEIR, and provides written findings for each of the significant effects, which are accompanied by a brief explanation of the rationale for each finding.

### Environmental Impacts of the Proposed Project

#### Less-Than-Significant Impacts

The SEIS/SEIR concludes that all impacts of the proposed Project in the following environmental resource areas would be less-than-significant:

*Aesthetics/Visual Resources;*

*Cultural Resources;*

*Land Use;*

*Marine Transportation; and*

*Population and Housing;*

In addition, the SEIS/SEIR concludes that some, but not all, impacts of the proposed Project in following environmental resource areas would be less-than-significant:

*Air Quality and Meteorology*

*Biological Resources*

*Geology*

*Ground Transportation*

*Groundwater and Soils*

*Noise*

*Recreation*

*Risk of Upset and Hazardous Materials*

*Utilities and Public Services*

*Water Quality Sediments and Oceanography*

## **Significant Impacts**

The SEIS/SEIR concludes that some, but not all, impacts of the proposed Project in the following environmental resource areas would be significant prior to mitigation:

*Air Quality and Meteorology*

*Biological Resources*

*Geology*

*Ground Transportation*

*Groundwater and Soils*

*Noise*

*Recreation*

*Risk of Upset and Hazardous Materials*

*Utilities and Public Services*

*Water Quality Sediments and Oceanography*

In addition, the SEIS/SEIR concludes that all significant impacts of the proposed Project in the following environmental resource areas would be less than significant after mitigation:

*Ground Transportation*

*Groundwater and Soils*

*Utilities and Public Services*

Many of the significant impacts in the above resources areas could be reduced to less than significant with mitigation. However, as discussed below, the SEIS/SEIR determines that certain significant impacts cannot feasibly be mitigated and remain significant and unavoidable under CEQA.

## **Significant and Unavoidable Impacts**

The SEIS/SEIR concludes that some, but not all, impacts of the proposed Project in the following environmental resource areas would remain significant and unavoidable despite imposition of all feasible mitigation:

*Air Quality and Meteorology*

*Biological Resources*

*Geology*

*Noise*

*Recreation*

*Risk of Upset and Hazardous Materials*

*Water Quality Sediments and Oceanography*

The significant and unavoidable impacts, and the significant impacts that would be mitigated to a less than significant level, identified above are presented in Table 1.1. Less than significant impacts are presented in Table 1.2. Findings are provided for impacts found not to be significant, significant impacts that are mitigated to less-than-significant levels, as well as significant unavoidable environmental impacts. Where mitigation measures are proposed, these mitigation measures are included in a Mitigation Monitoring Reporting Plan (MMRP), which has been prepared separately from these findings.

In addition to the mitigation measures that have been incorporated into the proposed project, several alternatives were identified in the SEIS/SEIR in order to attempt to reduce significant environmental impacts associated with the proposed project. All alternatives to the proposed project and associated findings are discussed in this document.

**Table 1.1 Significant Impacts**

<i>Environmental Impacts</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
<b>Significant and Unavoidable Impacts</b>			
<b>AQ-1:</b> The proposed Project would result in construction-related emissions that exceed a SCAQMD threshold of significance.	CEQA: <b>Significant</b> impact for VOC, CO, NO <sub>x</sub> , SO <sub>x</sub> , PM <sub>10</sub> , and PM <sub>2.5</sub> emissions Measured pollutants: VOC, CO, NO <sub>x</sub> , SO <sub>x</sub> , PM <sub>10</sub> , and PM <sub>2.5</sub>	<b>MM AQ-1:</b> Ridesharing or Shuttle Service <b>MM AQ-2:</b> Staging Areas and Parking Lots <b>MM AQ-3:</b> Construction Equipment Standards <b>MM AQ-4:</b> Electricity Use <b>MM AQ-5:</b> Best Management Practices <b>MM AQ-6:</b> Additional Fugitive Dust Controls <b>MM AQ-7:</b> Expanded VSR Program <b>MM AQ-8:</b> Low-Sulfur Fuel for Construction Delivery Vessels <b>MM AQ-9:</b> Engine Standards for Harbor Craft Used in Construction <b>MM AQ-10:</b> Fleet Modernization for On-Road Trucks <b>MM AQ-11:</b> Special Precautions near Sensitive Sites	CEQA: <b>Significant</b> and unavoidable impact for VOC, CO, NO <sub>x</sub> , PM <sub>10</sub> , and PM <sub>2.5</sub> emissions Less than significant impact for SO <sub>x</sub>



FINAL FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS  
*Document considered draft until Board considers document*

<i>Environmental Impacts</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
		<b>MM AQ-12:</b> General Mitigation Measure <b>MM 4G-5:</b> Discontinue Construction Activities During Stage II Smog Alerts	

FINAL FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS

<i>Environmental Impacts</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
<b>AQ-2:</b> Project construction would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance.	CEQA: <b>Significant</b> impact for 1-hr and annual NO <sub>2</sub> , 24-hr PM <sub>10</sub> , and 24-hr PM <sub>2.5</sub> emissions Less than significant impact for all other pollutants Measured pollutants: 1-hr NO <sub>2</sub> , annual NO <sub>2</sub> , 1-hr CO, 8-hr CO, 24-hr PM <sub>10</sub> , annual PM <sub>10</sub> , and 24-hr PM <sub>2.5</sub>	<b>MM AQ-1</b> through <b>MM AQ-12</b> and <b>MM 4G-5</b>	CEQA: <b>Significant</b> and unavoidable impact for 1-hr and annual NO <sub>2</sub> , 24-hr PM <sub>10</sub> , and 24-hr PM <sub>2.5</sub> emissions Less than significant impact for all other pollutants
<b>AQ-3:</b> The proposed Project would result in operational emissions that exceed 10 tons per year of VOCs or a SCAQMD threshold of significance.	CEQA: <b>Significant</b> impact for VOC, CO, NO <sub>x</sub> , SO <sub>x</sub> , PM, PM <sub>10</sub> , and PM <sub>2.5</sub> emissions Measured pollutants: VOC, CO, NO <sub>x</sub> , SO <sub>x</sub> , PM, PM <sub>10</sub> , and PM <sub>2.5</sub>	<b>MM AQ-13:</b> Expanded Vessel Speed Reduction Program <b>MM AQ-14:</b> Low Sulfur Fuel Use in Main Engines, Auxiliary Engines, and Boilers <b>MM AQ-15:</b> Alternative Maritime Power (AMP) <b>MM AQ-16:</b> Slide Valves <b>MM AQ-17:</b> Parking Configuration <b>MM AQ-18:</b> New Vessel Builds <b>MM AQ-19:</b> Equivalent Measures <b>MM AQ-20:</b> Periodic Review of New Technology and Regulations <b>MM AQ-21:</b> Throughput Tracking	CEQA: <b>Significant</b> and unavoidable impact for VOC, CO, NO <sub>x</sub> , SO <sub>x</sub> , PM, PM <sub>10</sub> , and PM <sub>2.5</sub> emissions
<b>AQ-4:</b> Proposed Project operations would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance.	CEQA: <b>Significant</b> impact for 1-hr and annual NO <sub>2</sub> Less than significant impact for all other pollutants Measured pollutants: 1-hr NO <sub>2</sub> , annual NO <sub>2</sub> , 1-hr CO, 8-hr CO, 24-hr PM <sub>10</sub> , annual PM <sub>10</sub> , and 24-hr PM <sub>2.5</sub>	<b>MM AQ-13</b> through <b>MM AQ-21</b> .	CEQA: <b>Significant</b> and unavoidable impact for annual NO <sub>2</sub> Less than significant impact for all other pollutants
<b>AQ-8:</b> The proposed Project would produce GHG emissions that would exceed CEQA Baseline levels. No impact determination is made with respect to NEPA.	CEQA: <b>Significant</b> impact	<b>MM AQ-13</b> <b>MM AQ-15</b> <b>MM AQ-22:</b> LEED <b>MM AQ-23:</b> Compact Fluorescent Light Bulbs <b>MM AQ-24:</b> Energy Audit <b>MM AQ-25:</b> Solar Panels <b>MM AQ-26:</b> Recycling	CEQA: <b>Significant</b> and unavoidable impact

<i>Environmental Impacts</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
		<b>MM AQ-27:</b> Tree Planting	
<b>BIO-1.2:</b> Operation of proposed Project facilities could affect individuals of or habitat for the California least tern and other special status species.	CEQA: <u>California Least Tern:</u> <b>Potential for significant</b> impact <u>California Brown Pelican:</u> <b>Potential for significant</b> impact <u>Other Special Status Species:</u> Less than significant impact	<u>California Least Tern:</u> <b>MM BIO-1.2a:</b> Structure Perches <b>MM BIO-1.2b:</b> Predator Control <b>MM BIO-1.2c:</b> Oil Spill Containment <b>MM BIO-1.2d:</b> Security Lighting <b>MM BIO-1.2e:</b> Operations Personnel Environmental Training <u>California Brown Pelican:</u> <b>MM BIO-1.2c</b> <u>Other Special Status Species:</u> <b>MM BIO-1.2f:</b> Vessel Speed Reduction Program	CEQA: <u>California Least Tern:</u> <b>Significant</b> and unavoidable impact <u>California Brown Pelican:</u> <b>Significant</b> and unavoidable impact <u>Other Special Status Species:</u> Less than significant impact
<b>BIO-2.2:</b> Operation of proposed Project facilities would have the potential to substantially reduce or alter a state-, federally-, or locally-designated natural habitat, special aquatic site, or plant community, including wetlands.	CEQA: <b>Potential for significant</b> impact	<b>MM BIO-1.2c</b>	CEQA: <b>Significant</b> and unavoidable impact
<b>BIO-4.2:</b> Proposed Project operations, including accidental oil spills and introduction of invasive species, have the potential to substantially disrupt local biological communities.	CEQA: <u>Oil Spills:</u> <b>Potential for significant</b> impact <u>Runoff of Pollutants:</u> Less than significant impact <u>Invasive Species:</u> <b>Potential for significant</b> impact <u>Habitat Alteration:</u> Less than significant impact	<u>Oil Spills:</u> <b>MM BIO-1.2c</b> <u>Runoff of Pollutants:</u> Mitigation not required <u>Invasive Species:</u> None feasible <u>Habitat Alteration:</u> Mitigation not required	CEQA: <u>Oil Spills:</u> <b>Significant</b> and unavoidable impact <u>Runoff of Pollutants:</u> Less than significant impact <u>Invasive Species:</u> <b>Significant</b> and unavoidable impact <u>Habitat Alteration:</u> Less than significant impact
<b>GEO-1:</b> The proposed Project would expose people or property to substantial risk of fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure.	CEQA: <b>Significant</b> impact	<b>MM 4A-4:</b> Seismic Design	CEQA: <b>Significant</b> and unavoidable impact

FINAL FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS

<i>Environmental Impacts</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
<b>GEO-2:</b> The proposed Project could expose people or property to substantial risk of tsunamis or seiches.	CEQA: <b>Significant</b> impact	<b>MM GEO-1:</b> Emergency Response Planning	CEQA: <b>Significant</b> and unavoidable impact
<b>NOI-1:</b> Construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use.	CEQA: <b>Significant</b> impact	<b>MM 4H-1:</b> Use of Proper Construction Equipment to Reduce Noise <b>MM 4H-2:</b> Reduce Use of Portable Generators <b>MM 4H-3:</b> Coordinate Responses to Noise Complaints <b>MM NOISE-1:</b> Selection of Contractor For Pile Driving With Consideration of Noise Reduction <b>MM NOISE-2:</b> Restricted Hours for Pile Driving <b>MM NOISE-3:</b> Temporary Noise Attenuation Barriers	CEQA: <b>Significant</b> and unavoidable impact
<b>REC-1.1:</b> Construction of the proposed Project would result in a substantial loss or diminished quality of recreational, educational, or visitor-oriented opportunities, facilities, or resources.	CEQA: <b>Significant</b> impact	<b>MM NOISE-1:</b> Selection of Contractor For Pile Driving With Consideration of Noise Reduction <b>MM NOISE-2:</b> Restricted Hours for Pile Driving <b>MM 4K-4:</b> Boating Safety Measures During In-Water Construction	CEQA: <b>Significant</b> and unavoidable impact
<b>REC-1.2:</b> Proposed Project operations could result in a substantial loss or diminished quality of recreational, educational, or visitor-oriented opportunities, facilities, or resources in the event of an oil spill.	CEQA: <b>Significant</b> impact	<b>MM RISK-2.1a:</b> Double Hulled Vessels <b>MM RISK-2.1b:</b> Quick Release Couplings	CEQA: <b>Significant</b> and unavoidable impact
<b>RISK-2.1:</b> An accidental crude oil spill from a tanker would result in risks to the public and/or environment.	CEQA: <b>Significant</b> impact	<b>MM 4I-2:</b> Clean Coastal Waters Cooperative <b>MM RISK-2.1a:</b> Double Hulled Vessels <b>MM RISK-2.1b:</b> Quick-Release Couplings <b>MM RISK-2.1c:</b> Oil Spill and Eelgrass Habitat	CEQA: <b>Significant</b> and unavoidable impact
<b>RISK-5:</b> A potential terrorist attack would result in risks to the public and environment in areas near Pier 400.	CEQA: <b>Significant</b> impact	<b>MM 4I-7:</b> Port Police Protection	CEQA: <b>Significant</b> and unavoidable impact

<i>Environmental Impacts</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
<p><b>WQ-1.2:</b> Runoff and oil spills during operation of proposed Project facilities have the potential to result in discharges which create pollution, contamination, or nuisance, or could cause regulatory standards to be violated in harbor waters.</p>	<p>CEQA: <b>Significant</b> impact</p>	<p><b>MM 4B-7:</b> Increase Local Staffing of California Department of Fish and Game (CDFG) Office of Oil Spill Prevention and Response (OSPR)</p> <p><b>MM WQ-1.2:</b> Cleanup of Floating Materials Retained by Containment Boom</p>	<p>CEQA: <b>Significant</b> and unavoidable impact</p>
<p><b>Significant Impacts that can be Mitigated to Less than Significant</b></p>			
<p><b>AQ-6:</b> The proposed Project would expose receptors to significant levels of toxic air contaminants.</p>	<p>CEQA: <b>Significant</b> impact for cancer risk at residential and sensitive receptors</p> <p>Less than significant impact for cancer risk at student and occupational receptors</p> <p>Less than significant impact for chronic and acute non-cancer effects at all receptors</p>	<p><b>MM AQ-1</b> through <b>MM AQ-21</b> and <b>MM 4G-5</b>.</p>	<p>CEQA: Less than significant impact for cancer risk at all receptors</p> <p>Less than significant impact for chronic and acute non-cancer effects at all receptors</p>

FINAL FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS

<i>Environmental Impacts</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
<b>BIO-1.1:</b> Construction of proposed Project facilities could affect individuals of or habitat for the California least tern and other special status species.	CEQA: <u>California Least Tern</u> : <b>Potential for significant</b> impact <u>California Brown Pelican</u> : Less than significant impact <u>Western Snowy Plover</u> : No impact <u>Black Skimmer</u> , <u>Burrowing Owl</u> : <b>Potential for significant</b> impact <u>Other Special Status Species</u> : Less than significant impact	<u>California Least Tern</u> , <u>Black Skimmer</u> , <u>Burrowing Owl</u> : <b>MM BIO-1.1a:</b> Monitor the California Least Tern and Other Bird Nesting <b>MM BIO-1.1b:</b> Stone Column Installation Monitoring <b>MM BIO-1.1c:</b> Construction Schedule <b>MM BIO-1.1d:</b> Construction Contractor Environmental Training <b>MM BIO-1.1e:</b> Perches <b>MM BIO-1.1f:</b> Lighting <b>MM BIO-1.1g:</b> Vegetation Clearing <b>MM BIO-1.1h:</b> Protection of Special Status Species Nesting Birds <b>MM BIO-1.1i:</b> Protection of California Least Tern Nesting <b>MM BIO-1.1j:</b> Noise Buffer <b>MM BIO 1.1k:</b> Noise Reduction during Pile Driving <u>Other Special Status Species</u> : Mitigation not required	CEQA: <u>California Least Tern</u> : Less than significant impact <u>California Brown Pelican</u> : Less than significant impact <u>Western Snowy Plover</u> : No impact <u>Black Skimmer</u> , <u>Burrowing Owl</u> : Less than significant impact <u>Other Special Status Species</u> : Less than significant impact
<b>BIO-4.1:</b> Proposed Project construction activities could substantially disrupt local biological communities.	CEQA: <b>Potential for significant</b> impact	<b>MM BIO-1.1g</b> and <b>MM BIO-1.1h</b>	CEQA: Less than significant impact
<b>TRANS-1:</b> Proposed Project construction would result in a short-term, temporary increase in auto traffic.	CEQA: <b>Significant</b> impact	<b>MM TRANS-1:</b> Outbound Construction Worker Routing <b>MM 4F-1:</b> Encouraging Carpooling <b>MM 4F-2:</b> Efficient Use of Truck Trips <b>MM 4F-4:</b> Ridesharing, Parking Management, Auto Use/Truck Movement Restrictions <b>MM 4F-5:</b> Literature on VMT Reduction and Rideshare	CEQA: Less than significant impact

<i>Environmental Impacts</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
<b>GW-1.1:</b> Construction activities may encounter toxic substances or other contaminants associated with historical uses of the Port, resulting in short-term exposure (duration of construction) to construction/operations personnel and/or long-term exposure to future site occupants.	CEQA: <b>Significant</b> impact	<b>MM GW-1:</b> Site Characterization and Remediation of Tank Farm Site 2 <b>MM GW-2:</b> Soil, Slurry, and Groundwater Characterization in Areas of Known Contamination <b>MM GW-3:</b> Contamination Contingency Plan	CEQA: Less than significant impact
<b>GW-2.1:</b> Project construction activities would potentially result in release of contaminants to soils and groundwater in such concentrations that existing local (LARWQCB), state, or federal statutes would be violated.	CEQA: <b>Significant</b> impact	<b>MM GW-4:</b> Aquifer Cross-Contamination Prevention <b>MM GW-5:</b> Frac-Out Prevention	CEQA: Less than significant impact
<b>GW-3.1:</b> Project construction could locally change the rate or direction of movement of existing contaminants, and would potentially expand the area affected by contaminants or increase the level of groundwater contamination.	CEQA: <b>Significant</b> impact	<b>MM GW-2(g):</b> Soil, Slurry, and Groundwater Characterization in Areas of Known Contamination <b>MM GW-4</b> <b>MM GW-5</b>	CEQA: Less than significant impact
<b>PS-4:</b>			

## Findings Regarding Environmental Impacts Found to Be Less-Than-Significant

The LAHD Board of Commissioners hereby finds that the following environmental impacts of the Plains Project are less than significant. Under CEQA, no mitigation measures are required for impacts that are less than significant (14 Cal. Code Regs. § 15126.4(a)(3)).

**Table 1.2 Less than Significant Impacts**

<i>Environmental Impacts</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
<b>Aesthetics/Visual Resources</b>			
<b>AES-1:</b> The proposed Project would not adversely affect a scenic vista.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>AES-2:</b> The proposed Project would not adversely affect scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within [view from] a state scenic highway.	CEQA: No Impact	Mitigation not required	CEQA: No impact
<b>AES-3:</b> The proposed Project would not adversely affect the existing visual character or quality of a site and its surroundings.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>AES-4:</b> The proposed Project would result in no new source of light or glare that would adversely affect day or nighttime views in the area.	CEQA: No Impact	Mitigation not required	CEQA: No impact
<b>AES-5:</b> The proposed Project would result in no shadow effects on nearby shadow-sensitive land uses.	CEQA: No Impact	Mitigation not required	CEQA: No impact
<b>AES-6:</b> The proposed Project would result in less than significant visual impacts: there would be no inconsistency with applicable rules and regulations.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>Air Quality</b>			
<b>AQ-5:</b> The proposed Project would not create an objectionable odor at the nearest sensitive receptor.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>AQ-7:</b> The proposed Project would not conflict with or obstruct implementation of an applicable AQMP.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>Biological Resources</b>			
<b>BIO-2.1:</b> Construction of proposed Project facilities would not substantially reduce or alter a state-, federally-, or locally-designated natural habitat or plant community, including wetlands.	CEQA: No impact	<b>MM Bio 1.1k</b> Noise Reduction during Pile Driving	CEQA: Less than significant impact
<b>BIO-3.1:</b> Construction of proposed Project facilities would not interfere with any wildlife migration/movement corridors.	CEQA: No impact	Mitigation not required	CEQA: No impact



<i>Environmental Impacts</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
<b>BIO-3.2:</b> Operation of proposed Project facilities would not interfere with wildlife migration/movement corridors.	CEQA: No impact	Mitigation not required	CEQA: No impact
<b>Cultural Resources</b>			
<b>CR-1a:</b> Construction activities would have a low potential to disturb archaeological cultural resources.	CEQA: <u>In-water Cultural Resources:</u> Less than significant impact <u>Archeological Cultural Resources:</u> Less than significant impact	<b>MM CR-1a:</b> Stop Work in Area if Prehistoric and/or Historical Archaeological Resources are Encountered	CEQA: Less than significant impact
<b>CR-1b:</b> Construction activities would have no potential to result in the disturbance of historic architectural resources.	CEQA: No impact	Mitigation not required	CEQA: No impact
<b>CR-2:</b> The proposed Project would not result in the permanent loss of, or loss of access to, a paleontological resource.	CEQA: No impact	Mitigation not required	CEQA: No impact
<b>Geology</b>			
<b>GEO-3:</b> The proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from subsidence/soil settlement.	CEQA: Less than significant impact	<b>MM 4A-6:</b> Minimization of Settlement	CEQA: Less than significant impact
<b>GEO-4:</b> The proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from expansive soil.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>GEO-5:</b> The proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from landslides or mudflows.	CEQA: No impact	Mitigation not required	CEQA: No impact
<b>GEO-6:</b> The proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavations, grading, or fill.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>GEO-7:</b> The proposed Project would not result in the destruction, permanent covering, or material and adverse modification of one or more distinct and prominent geologic or topographic features.	CEQA: No impact	Mitigation not required	CEQA: No impact
<b>GEO-8:</b> The proposed Project would not result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the state.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>Ground Transportation</b>			
<b>TRANS-2:</b> Long-term vehicular traffic associated with the proposed Project would not substantially affect volume/capacity ratios or	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact

FINAL FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS

<i>Environmental Impacts</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
levels of service on regional intersections.			
<b>TRANS-3:</b> Proposed Project operations would not result in a significant increase in related public transit use.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>TRANS-4:</b> Proposed Project operations would not result in a significant increase in freeway congestion.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>TRANS-5:</b> Proposed Project operations would not cause an increase in rail activity that would cause delays in regional traffic.	CEQA: No impact	Mitigation not required	CEQA: No impact
<b>Groundwater and Soils</b>			
<b>GW-4.1:</b> Project construction would not result in a substantial change to potable water levels.	CEQA: No impact	Mitigation not required	CEQA: No impact
<b>GW-5.1:</b> Project construction would not result in a demonstrable and sustained reduction in groundwater recharge capacity.	CEQA: No impact	Mitigation not required	CEQA: No impact
<b>GW-6.1:</b> Project construction would not violate regulatory water quality standards at an existing production well.	CEQA: No impact	Mitigation not required	CEQA: No impact
<b>GW-1.2:</b> Project operations would not result in exposure of soils containing toxic substances and petroleum hydrocarbons, associated with prior operations, which would be deleterious to humans, based on regulatory standards established by the lead agency for the site.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>GW-2.2:</b> Operational activities would not result in release of crude oil to soils and groundwater in such concentrations that existing local (LARWQCB), state, or federal statutes would be violated.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>GW-3.2:</b> The Project would not change the rate or direction of movement of existing contaminants; and would not expand the area affected by contaminants or increase the level of groundwater contamination.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>GW-4.2:</b> Project operations would not result in a substantial change to potable water levels.	CEQA: No impact	Mitigation not required	CEQA: No impact
<b>GW-5.2:</b> Project operations would not result in a demonstrable and sustained reduction in groundwater recharge capacity.	CEQA: No impact	Mitigation not required	CEQA: No impact
<b>GW-6.2:</b> Project operations would not violate regulatory water quality standards at an existing production well.	CEQA: No impact	Mitigation not required	CEQA: No impact
<b>Land Use</b>			
<b>LU-1:</b> The proposed Project would be consistent with the adopted land use/density designation in the Community Plan, redevelopment plan, or specific plan for the site.	CEQA: No impact	Mitigation not required	CEQA: No impact

<i>Environmental Impacts</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
<b>LU-2:</b> The proposed Project would be consistent with the General Plan and adopted environmental goals and policies contained in other applicable plans adopted for the purpose of avoiding or mitigating an environmental impact.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>LU-3:</b> The proposed Project would not substantially affect the types and/or extent of existing land uses in the Project area.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>LU-4:</b> The proposed Project would not divide or isolate neighborhoods, communities, or land uses.	CEQA: No impact	Mitigation not required	CEQA: No impact
<b>LU-5:</b> The proposed Project would not cause a secondary impact to the surrounding land uses.	CEQA: No impact	Mitigation not required	CEQA: No impact
<b>Marine Transportation</b>			
<b>MT-1.1:</b> Project construction-related marine traffic could impact marine vessel safety within the Port.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>MT-1.2:</b> Tankers transporting oil to the Project Marine Terminal could impact marine vessel safety within the Port.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>MT-1.3:</b> Support vessels and waterside berth facilities associated with the Project Marine Terminal could impact marine vessel safety within the Port.	CEQA: Less than significant impact	<b>MM 4E-8:</b> Shield Terminal Lights	CEQA: Less than significant impact
<b>Noise</b>			
<b>NOI-2:</b> Proposed Project construction activities would not exceed the ambient noise level by 5 dB(A), as defined by City thresholds, at a noise-sensitive use between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday.	CEQA: No impact	Mitigation not required	CEQA: No impact
<b>NOI-3:</b> Proposed Project operations would not cause the ambient noise level measured at the property line of Pier 400 Faces C and D Tank Farm Site 1, the Tank Farm Site 2 on Terminal Island, or the pipeline route to increase by 3 dB(A) in CNEL to or within the “normally unacceptable” or “clearly unacceptable” category, or any 5 dB(A) or greater noise increase, as defined in Table 3.10-4.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>Recreation</b>			
<b>REC-2.1:</b> Construction of the proposed Project would not result in a demand for recreation and park services that exceeds the available resources.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>REC-2.2:</b> Proposed Project operations would not result in a demand for recreation and park services that exceeds the available resources.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact

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<i>Environmental Impacts</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
<b>Risk of Upset and Hazardous Materials</b>			
<b>RISK-1:</b> Construction of the proposed Project would have the potential for accidental releases of hazardous materials.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>RISK-2.2:</b> An accidental oil spill from the proposed Project pipelines would pose a risk to the marine environment.	CEQA: Less than significant impact	<b>MM 4I-3:</b> Onshore Oil Spill Containment	CEQA: Less than significant impact
<b>RISK-3.1:</b> Potential pipeline oil spills with subsequent fires would result in risks to the public and environment.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>RISK-3.2:</b> Potential tank farm spills and subsequent fires would result in risks to the public and environment.	CEQA: Less than significant impact	<b>MM 4I-4:</b> Built-In Fire Protection Measures <b>MM 4I-5:</b> Use of Seawater for Fire Protection	CEQA: Less than significant impact
<b>RISK-4:</b> The proposed Project would not substantially interfere with existing emergency response plans or evacuation plans.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>Public Services and Utilities</b>			
<b>PS-1:</b> The proposed Project would not increase the demand for additional law enforcement officers and/or facilities such that the USCG, LAPD, or Port Police would not be able to maintain an adequate level of service without additional facilities, the construction of which could cause significant environmental effects.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>PS-2:</b> Development of the proposed Project would not require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>PS-3:</b> The proposed Project would not result in a substantial increase in utility demands; however, construction and/or expansion of onsite water, wastewater, or storm drain lines would be required to support new terminal development.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>PS-5:</b> Implementation of the proposed Project would generate minor increases in energy demands; however, construction of new offsite energy supply facilities and distribution infrastructure would not be required to support proposed Project activities.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>Water Quality</b>			
<b>WQ-1.1:</b> Construction of proposed Project facilities would not result in discharges which would create pollution, contamination, or nuisance, or cause regulatory standards to be violated in harbor waters.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact

<i>Environmental Impacts</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
<b>WQ-2.1:</b> Construction of Project facilities would not cause or increase the potential for flooding that could harm people or damage property or sensitive biological resources.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>WQ-3.1:</b> Construction of the Marine Terminal berth would not cause a substantial loss of surface water in the harbor.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>WQ-4.1:</b> Construction of proposed Project facilities would not cause permanent changes in the movement of surface water that could produce a substantial change in the current or direction of water flow.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>WQ-5.1:</b> Construction activities would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition which would not be contained or controlled on-site.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>WQ-2.2:</b> Operation of proposed Project facilities would not cause or increase the potential for flooding that could harm people or result in damage to property or sensitive biological resources.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>WQ-3.2:</b> Project operations would not cause a substantial loss of surface water in the harbor.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>WQ-4.2:</b> Operation of the Project would not cause permanent changes in the movement of surface water that could produce a substantial change in the current or direction of water flow.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>WQ-5.2:</b> Proposed Project operations would not accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition which would not be contained or controlled on-site.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>Population and Housing</b>			
<b>POP-1.1:</b> Proposed Project construction would not cause growth (i.e., new housing or employment generators) or accelerate development in an undeveloped area that exceeds projected/planned levels for the year of the proposed Project occupancy/buildout, and that would result in an adverse physical change in the environment.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>POP-2.1:</b> Proposed Project construction would not introduce unplanned infrastructure that was not previously evaluated in the adopted Community Plan or General Plans.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact

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<i>Environmental Impacts</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
<b>POP-1.2:</b> Proposed Project operations would not cause growth (i.e., new housing or employment generators) or accelerate development in an undeveloped area that exceeds projected/planned levels for the year of the Project occupancy/buildout, and that would result in an adverse physical change in the environment.	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
<b>POP-2.2:</b> Proposed Project operations would not introduce unplanned infrastructure that was not previously evaluated in the adopted Community Plan or General Plan.	CEQA: No impact	Mitigation not required	CEQA: No impact

## **Significant Environmental Impacts that are Reduced to a Less-Than-Significant Level by Mitigation Measures Incorporated into the Project**

The SEIS/SEIR determines that all significant impacts in the following resource areas could be reduced to less-than-significant levels through the implementation of appropriate mitigation measures. With mitigation, all impacts of the proposed Project in these resource areas are found to be less than significant:

*Ground Transportation*

*Groundwater and Soils*

In addition, some, but not all, of the significant impacts of the proposed Project in the following resource areas could be reduced to less-than-significant levels through the implementation of appropriate mitigation measures. However, other significant impacts of the proposed Project in these resource areas cannot be reduced to a less-than-significant level through implementation of feasible mitigation measures, and therefore remain significant unavoidable impacts of the proposed Project.

*Air Quality and Meteorology*

*Biological Resources*

The Board hereby finds that mitigation measures have been identified in the SEIS/SEIR that will avoid or substantially lessen the following significant environmental impacts to a less than significant level. The significant impacts and the mitigation measures that will reduce them to a less than significant level are as follows.

### **Ground Transportation**

As discussed in Section 3.6 of the SEIS/SEIR, there would be one significant impact to Ground Transportation that would be mitigated to a less than significant level as a result of mitigation measures incorporated into the Project. The impacts and mitigation measures are discussed below.

#### **Impact TRANS-1: Proposed Project construction would result in a short-term, temporary increase in auto traffic**

There would be a significant impact from construction activities under CEQA at one intersection, Navy Way/Seaside Avenue during the PM peak hour. The final LOS would be C, and proposed Project construction trips would increase V/C by 0.062, greater than the 0.04 threshold used for **Impact TRANS-1**. Thus, proposed Project construction traffic would result in a significant temporary construction impact on ground transportation and circulation at this intersection. Because proposed Project construction would generate relatively small numbers of daily truck trips to begin with, and most materials (with the exception of cement) would be brought in during off-peak hours, project construction truck trips during the AM and PM peak periods are not expected to create any other significant impacts on the roadway system from proposed Project.

#### **Finding**

Changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect as identified in the Final SEIR. These changes are set forth in Mitigation Measure TRANS-1 below.

***MM TRANS-1: Outbound Construction Worker Routing.*** *Outbound westbound construction workers from TCY 421 and TCY 408 would be directed to leave these yards by traveling northbound on Ferry Street, then access SR-47 westbound via the Ferry Street/SR-47 ramp interchange. Outbound eastbound construction workers would be directed to leave TCY 421 and TCY 408 by traveling southbound on Ferry Street, following Ferry Street as it turns into Terminal Way heading northeast, turn left on Navy Way, and then turn right at the Navy Way/Seaside Avenue intersection.*

**MMs 4F-1, 4F-2, 4F-4, and 4F-5** from the 1992 Deep Draft FEIS/FEIR would apply, as noted in below. In addition, standard traffic control measures associated with any temporary road/lane closures would apply, including detour signage, cones, construction area signage, and flagmen. **MM TRANS-1** would also be required to reduce significant impacts on the Ferry Street/SR-47 EB on/off-ramps.

***MM 4F-1:*** *The contractor shall encourage construction workers to carpool by offering various incentives.*

***MM 4F-2:*** *When possible, trucks that are utilized to bring equipment and materials to the site shall be used to carry off any debris, excess materials, etc.*

***MM 4F-4:*** *Tenants shall be encouraged to reduce the number of vehicle trips associated with employee vehicles by introducing ridesharing incentives, parking management programs (i.e., parking spaces to ride sharers and removing street parking), auto use restriction programs, and truck movement restriction programs.*

***MM 4F-5:*** *On-site information on the importance of the reduction in vehicle miles traveled and related air quality impacts shall be provided and literature on rideshare programs shall be dispensed.*

### **Rationale for Finding**

Implementation of Outbound Construction Worker Routing activities during construction, as set forth in **MM TRANS-1**, would reduce significant impacts at Navy Way/Seaside Avenue. The final LOS would still be C, but the increase due to proposed Project construction trips would be smaller than the 0.04 threshold used for Impact TRANS-1. Residual impacts would be less than significant

### **Groundwater and Soils**

As discussed in Section 3.7 of the SEIS/SEIR, there would be three significant impacts to Groundwater and Soils resources that would be mitigated to less than significant levels as a result of mitigation measures incorporated into the Project. The impacts and mitigation measures are discussed below.



### **Impact GW-1.1: Construction activities may encounter toxic substances or other contaminants**

Grading and construction, including grading for Tank Farm Sites 1 and 2; trenching for Pipeline Segments 1, 2a, 2b, 2c, 4, and 5; trenching at the ExxonMobil Southwest Terminal; trenching within and adjacent to the HDD work areas; excavations at pigging Station Site A and Alternative Site B; and dewatering at pigging Station Site A and Alternative Site B could potentially expose construction personnel, existing nearby operations personnel, and future occupants of the site to contaminated soil and groundwater. Human health and safety impacts would be significant pursuant to exposure levels established by Cal/EPA's Office of Environmental Health Hazard Assessment (OEHHA).

### **Finding**

Changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect as identified in the Final SEIR. These changes are set forth in Mitigation Measures GW-1, GW-2, and GW-3 below:

***Mitigation Measure (MM) GW-1: Site Remediation.*** *Unless otherwise authorized by the lead regulatory agency for any given site, the LAHD shall remediate all contaminated soils or contamination within the excavation zones on the Project site boundaries prior to or during subsurface construction activities. Remediation shall also include suspected or known contamination within boundaries of the proposed Project that occurred as a result of leaks or spills on adjacent properties. Remediation shall occur in compliance with local, state, and federal regulations, as described in Section 3.7.3, and as directed by the Los Angeles Fire Department, DTSC, and/or LARWQCB.*

*Soil remediation shall be completed such that contamination levels in subsurface excavations are below health screening levels established by OEHHA and/or applicable action levels established by the lead regulatory agency with jurisdiction over the site. Only clean soil would be used as backfill. Soil contamination waivers may be acceptable as a result of encapsulation (i.e., paving) in backland areas and/or risk-based soil assessments but would be subject to the discretion of the lead regulatory agency.*

*Existing groundwater contamination throughout the proposed Project boundary shall continue to be monitored and remediated as encountered, simultaneous and/or subsequent to site development, and/or in accordance with direction provided by the LARWQCB.*

*Unless otherwise authorized by the lead regulatory agency for any given site, areas of excavation with soil contamination that shall be remediated prior to, or in conjunction with, Project construction.*

*Unless otherwise authorized by the lead regulatory agency for any given site, areas of excavation with soil contamination that shall be remediated prior to, or in conjunction with, Project construction.*

***MM GW-2: Soil, Slurry, and Groundwater Characterization in Areas of Known Contamination.*** *The following sampling plan shall be implemented to address areas of known soil contamination during grading, trenching, HDD, and dewatering activities:*

*Excavated soil in areas of known contamination shall be systematically tested for contaminants, including but not limited to those listed in Table 3.7-1, for each project area. The Port shall confirm the presence of the suspect material and direct the contractor to remove, stockpile, or contain the suspect material(s) identified within the boundaries of the construction area. Contaminated sediments shall either be treated on-site or trucked off-site for disposal at a licensed facility approved for disposal of such waste. There are numerous contaminated waste treatment facilities in California, including TPS Technologies in Adelanto and TRS in Azusa. The closest Class I hazardous waste landfill is the Buttonwillow Landfill, located in Kern County, approximately 8 miles west of Buttonwillow and 36 miles west of Bakersfield. In addition, the Class I Kettleman Hills facility is located further to the north in Kings County and has a remaining capacity of 1,901,860 cubic yards, with no daily limit (CIWMB, 2007). Several other hazardous waste disposal sites are located in California and neighboring states. See Section 3.13, Utilities and Public Services, for additional information.*

*HDD drilling waste shall be systematically tested for contaminants, and if present, segregated from clean soils and slurry. Contaminated slurry shall be containerized, dewatered, and dried, pending remediation or off-site disposal. Contaminated groundwater, derived from the slurry dewatering process, shall be trucked off-site and disposed at a licensed disposal facility.*

*The remedial option(s) of contaminated material shall be dependent upon a number of criteria (including but not limited to types of chemical constituents, concentration of the chemicals, health and safety issues, time constraints, cost, etc.) and shall be determined on a site-specific basis.*

*On-site personnel handling or working in the vicinity of the contaminated material shall be trained in accordance with Occupational Safety and Health and Administration (OSHA) regulations for hazardous waste operations. These regulations are based on CFR 1910.120 (e) and 8 CCR 5192, which states that "general site workers" shall receive a minimum of 40 hours of classroom training and a minimum of three days of field training. This training provides precautions and protective measures to reduce or eliminate hazardous materials/waste hazards at the work place.*

*Copies of hazardous waste manifests or other documents indicating the amount, nature, and disposition of such materials shall be submitted to the Chief Harbor Engineer within 30 days of soil/slurry sampling, remediation, and/or disposal.*

*All excavations shall be filled with structurally suitable fill material which contains contaminant concentrations (if any) that are within permissible limits, as directed by the Los Angeles Fire Department, DTSC, and/or LARWQCB.*

*Any project-related dewatering activities shall either discharge into the sanitary sewer, under permit with the City of Los Angeles Sanitation Bureau, or comply with the NPDES permit regulations and an associated SWPPP regarding discharge into storm drains and/or directly into Harbor waters. Such permit requirements typically include on-site treatment to remove pollutants prior to discharge. Effluent analyses should include, but not be limited to, contaminants summarized in Table 3.7-1. Alternatively, the water shall be temporarily stored onsite in holding tanks, pending off-site disposal at a disposal facility approved by the LARWQCB. An NPDES-mandated SWPPP shall include measures ensuring that potential pollutant-contaminated waters encountered during excavation would be isolated and collected for transportation to a hazardous waste treatment facility prior to their discharge into the storm drain system.*

**MM GW-3: Contamination Contingency Plan.** *The following contingency plan shall be implemented to address unknown contamination during grading, trenching, HDD, and dewatering activities:*

- *All grading, trench excavation and filling operations, HDD, and dewatering operations shall be observed for the presence of free-phase petroleum products, chemicals, or contaminated soil/groundwater. Discolored soil or suspected contaminated soil shall be segregated from clean soil. In the event unexpected, contaminated soil or groundwater is encountered during construction, the contractor shall notify the LAHD's Chief Harbor Engineer, Director of Environmental Management, and Risk Management's Industrial Hygienist. The Port shall confirm the presence of the suspect material and direct the contractor to remove, stockpile or contain, and characterize the suspect material(s) identified within the boundaries of the construction area. Continued work at a contaminated site shall require the approval of the Chief Harbor Engineer.*

*A photoionization detector (or other organic vapor detecting device) shall be present during grading, excavation, and HDD through suspected chemically impacted soil.*

*Excavation of VOC-impacted soil will require obtaining and complying with a South Coast Air Quality Management District Rule 1166 permit.*

*The extent of removal actions shall be determined on a site-specific basis. At a minimum, the chemically impacted area(s) within the boundary of the tank farm construction area or pipeline trench shall be remediated to the satisfaction of the lead regulatory agency for the site. The Port Project Manager overseeing removal actions shall inform the contractor when the removal action is complete.*

*HDD drilling waste shall similarly be monitored for contaminants, and if present, segregated from clean soils and slurry. Contaminated slurry shall be containerized, dewatered, and dried, pending remediation or off-site disposal. Contaminated groundwater, derived from the slurry dewatering process, shall be trucked off-site and disposed at a licensed disposal facility.*

*The remedial option(s) of contaminated material shall be dependent upon a number of criteria (including but not limited to types of chemical constituents, concentration of the chemicals, health and safety issues, time constraints, cost, etc.) and shall be determined on a site-specific basis. Both off-site and on-site remedial options shall be evaluated.*

*Copies of hazardous waste manifests or other documents indicating the amount, nature, and disposition of such materials shall be submitted to the Chief Harbor Engineer within 30 days of project completion.*

*In the event that contaminated soil is encountered, all on-site personnel handling or working in the vicinity of the contaminated material shall be trained in accordance with Occupational Safety and Health and Administration (OSHA) regulations for hazardous waste operations. These regulations are based on CFR 1910.120 (e) and 8 CCR 5192, which states that "general site workers" shall receive a minimum of 40 hours of classroom training and a minimum of three days of field training. This training provides precautions and protective measures to reduce or eliminate hazardous materials/waste hazards at the work place.*

*In cases where potential chemically impacted soil is encountered, a real-time aerosol monitor shall be placed on the prevailing downwind side of the impacted soil area to monitor for airborne particulate emissions during soil excavation and handling activities.*

*All excavations shall be filled with structurally suitable fill material which contains contaminant concentrations (if any) that are within permissible limits, as directed by the Los Angeles Fire Department, DTSC, and/or LARWQCB.*

*Any project-related dewatering activities shall either discharge into the sanitary sewer, under permit with the City of Los Angeles Sanitation Bureau, or comply with the NPDES permit regulations and an associated SWPPP regarding discharge into storm drains and/or directly into Harbor waters. Such permit requirements typically include on-site treatment to remove pollutants prior to discharge. Alternatively, the water shall be temporarily stored onsite in holding tanks, pending off-site disposal at a disposal facility approved by the LARWQCB. An NPDES-mandated SWPPP shall include measures ensuring that potential pollutant-contaminated waters encountered during excavation would be isolated and collected for transportation to a hazardous waste treatment facility prior to their discharge into the storm drain systems.*

### **Rationale for Finding**

Additional soil characterization and remediation of Tank Farm Site 2, as outlined in **MM GW-1**; soil, slurry, and groundwater characterization in areas of known contamination, as outlined in **MM GW-2**; as well as implementation of a contingency plan for potentially encountering unknown soil or groundwater contamination, as outlined in **MM GW-3**, would reduce health and safety impacts to on-site personnel in onshore areas, as well as operational personnel in immediately adjacent areas, such that residual impacts would be less than significant.

### **Impact GW-2.1: Project construction activities would potentially result in release of contaminants to soils and groundwater**

As part of pipeline construction, HDD would be completed above and locally within the semi-perched and Gage aquifers, to a maximum depth of 170 feet. The HDD borehole would potentially create a conduit for contamination in near-surface soils and the semi-perched aquifer to extend downward through the low permeability Bellflower Aquiclude and into the Gage Aquifer. In addition, frac-outs could potentially result in adverse impacts to water quality in the underlying groundwater. Water quality impacts from HDD operations would be considered potentially significant because construction activities would potentially result in release of contaminants to soils and groundwater in such concentrations that existing statutes would be violated.

### **Finding**

Changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. These changes are set forth in Mitigation Measures GW-4 and GW-5 below:

***MM GW-4: Aquifer Cross-Contamination Prevention.*** *The following aquifer cross-contamination prevention measures shall be implemented to address HDD related operations:*

- 1. Additional assessment of the hydrologic conditions of the semi-perched aquifer, Bellflower Aquiclude, and Gage Aquifer shall be performed in areas where cross-contamination could occur as a result of HDD operations. Groundwater assessment would include groundwater well installation for sampling and constituent analysis, as well as pumping tests to evaluate aquifer characteristics, including storage, transmissivity, and hydraulic*

*conductivity. Groundwater samples would be analyzed for chemicals of concern including but not limited to: TPH, VOCs, SVOCs, PAHs, pesticides, PCBs, and metals. Groundwater samples would also be analyzed for physical groundwater characteristics including pH, conductivity, general mineral content, and other parameters. At least one set of cluster wells shall be completed to evaluate the vertical gradient and potential for vertical flow between the semi-perched aquifer, Bellflower Aquiclude, and Gage Aquifer.*

- 2. An HDD plan shall be developed and implemented to prevent the introduction of contaminated groundwater from the semi-perched aquifer into deeper aquifers along the HDD routes. The plan shall be developed based on the results of an assessment of the hydrologic conditions, as described above in "a". The plan may include using a conductor casing during HDD through the semi-perched aquifer into the underlying Bellflower Aquiclude. Use of such a conductor casing would likely be most appropriate at the entry point to Pipeline Segment 3 South, as much of Mormon Island is underlain by NAPL.*

**MM GW-5: Frac-Out Prevention.** *The following frac-out prevention measures shall be implemented to address construction related frac-outs:*

- 1. A preliminary, site-specific, geotechnical investigation shall be completed in areas proposed for HDD. Preliminary geotechnical borings shall be drilled to verify that the proposed depth of HDD is appropriate to avoid frac-outs (i.e., the depth of finest grained sediments and least fractures) and to determine appropriate horizontal directional drilling methods (i.e., appropriate drilling mud mixtures for specific types of sediments).*
- 2. A frac-out contingency plan shall be completed, including measures for prevention, containment, clean up, and disposal of released drilling muds that might occur either on the ground surface or into harbor waters. Preventative measures would include incorporation of the recommendations of the geotechnical investigation to determine the most appropriate HDD depth and drilling mud mixture. In addition, drilling pressures shall be closely monitored so that they do not exceed those needed to penetrate the formation.*

### **Rationale for Finding**

Aquifer cross-contamination prevention measures, as outlined in **MM GW-4**; and frac-out prevention measures, as outlined in **MM GW-5**, would reduce water quality impacts, such that residual impacts would be less than significant.

### **Impact GW-3.1: Project construction could locally change the rate, direction of movement of, or area affected by, existing contaminants**

The rate or direction of contaminant movement along Pipeline Segment 3 South could locally change as a result of possible dewatering operations during trenching at the southern end of the pipeline segment. A dewatering well placed within the NAPL plume would draw the NAPL towards the well, thus locally changing the direction and/or rate of movement of existing contaminants. In addition, HDD operations through contaminated groundwater of the semi-perched aquifer, most notably along Pipeline Segment 3 South, could result in cross-contamination of the underlying Gage Aquifer. Impacts would be considered potentially significant under CEQA because Project construction could locally change the rate or direction of movement of existing contaminants, and would potentially expand the area affected by contaminants or increase the level of groundwater contamination.

### **Finding**

Changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. These changes are set forth in above mentioned section (g) of measure GW-2, proper discharge of contaminated dewatering effluent, and measures GW-4, aquifer cross-contamination prevention measures, and G-5, frac-out prevention measures.

### **Rationale for Finding**

Proper discharge of contaminated dewatering effluent, as outlined in MM GW-2(g), and aquifer cross-contamination prevention measures, as outlined in MM GW-4, would reduce water quality impacts, such that residual impacts would be less than significant

### **Public Services and Utilities**

There would be one impact to Public Services and Utilities that could be reduced through mitigation measures, Mitigation measures to increase recycling rates and develop an integrated waste management program, would reduce Utilities and Public Service impacts, such that residual impacts would be less than significant.

### **Impact PS-4: The proposed Project would not generate substantial water and/or wastewater demands that would exceed the capacity of existing facilities in the proposed Project area. The proposed Project would generate substantial solid waste demands that could exceed capacities**

The amount of solid waste generated by construction activities would total approximately 5,524 tons, which would be a substantial one-time contribution to the solid waste stream, possibly contributing to the exceedance of solid waste facility capacities. Because construction waste is one of the greatest individual contributors to reductions in solid waste capacity, impacts associated with solid waste generation from Project construction are assumed to be significant under CEQA.

The proposed Project would generate 17.9 tons of solid waste per year during operations, representing 0.000010 percent of the permitted daily capacity of 5,000 tons at Chiquita Canyon Landfill, 0.000011 percent of the permitted daily capacity of 5,500 at the Sunshine Canyon Landfill, or 0.00009 percent of the available permitted daily capacity at the El Sobrante Landfill. As no solid waste is generated under CEQA Baseline conditions, all proposed Project operation generations would represent an increase over baseline conditions. Solid waste generated from Project operations after closure of the Chiquita Canyon Landfill, the Sunshine Canyon Landfill, and the El Sobrante Landfill (2030 and after) might represent a significant impact to landfill capacity if no new capacity were available and landfill demand remains constant. However, additional adequate landfill capacity is expected to be permitted and made available, including the utilization of more distant landfill capacity for solid waste generated in the City. Additionally, the achievement of Zero-Waste solutions in the City will reduce the overall need for landfill capacity. Thus, the post-2030 solid waste generated by the Project would not represent a significant impact to landfill capacity.

In conclusion, impacts associated with exceeding the capacity of the existing water supply and the TITP wastewater treatment facility would be less than significant. However, as solid waste generated during construction activities is one of the greatest individual contributors to solid waste capacity and would represent a substantial one-time contribution to the solid waste stream, impacts associated with solid waste generation during construction activities would be significant under CEQA.

## **Finding**

Changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. These changes are set forth in Mitigation Measures PS-1 through PS-3 below. Although impacts on water supply would be less than significant, **MM 4N-1** from the Deep Draft FEIS/FEIR would apply. This measure requires that water conservation devices and systems be incorporated into project designs, including those required by the State of California Department of Water Resources. These include the following:

- Any landscape plans shall emphasize a planting scheme that minimizes water irrigation requirements and shall use drought-resistant, native vegetation.
- The proposed Project shall pursue the use of reclaimed water from the Terminal Island Treatment Plant for use in terminal operations.
- The use of seawater for fire suppression shall be investigated.

In addition, the following measures would reduce the amount of solid waste requiring transportation to a landfill that would be generated during proposed Project construction:

***MM PS-1: Recycling of Construction Materials.** Demolition and/or excess construction materials shall be separated on-site for reuse/recycling or proper disposal. During grading and construction, separate bins for recycling of construction materials shall be provided on-site.*

***MM PS-2: Materials with Recycled Content.** Materials with recycled content shall be used in project construction. Chippers on site during construction shall be used to further reduce excess wood for landscaping cover.*

***MM PS-3: Solid Waste Integrated Resources Plan Compliance.** To ensure adequate long-term solid waste management, the proposed Project will be required to comply with policies and standards set forth in the City's Solid Waste Integrated Resources Plan (SWIRP) following 2025*

## **Rationale for Finding**

Implementation of **MMs PS-1** and **PS-2** would reduce proposed Project construction-related solid waste generation, ensuring less than significant impacts through approximately 2030 when existing landfills are projected to close. **MM PS-3** would ensure adequate long-term solid waste management for the proposed Project starting from 2025. Long-term impacts to solid waste disposal would be less than significant after mitigation.

## **Air Quality**

As discussed in Section 3.2 of the SEIS/SEIR, there would be one significant Air Quality impact that would be mitigated to a less than significant level as a result of mitigation measures incorporated into the Project. The impact and mitigation measures are discussed below.

### **Impact AQ-6: The proposed Project would expose receptors to toxic air contaminants**

A Health Risk Assessment (HRA) was completed to determine whether the proposed Project would expose receptors to significant levels of toxic air contaminants (TACs). The HRA was used to quantify the significance of public health effects generated by Project emissions of TACs. The HRA evaluated cancer and non-cancer effects, which is consistent with quantitative health impact analyses used for purposes of CEQA documentation. Estimates of Project health effects included the evaluation of: (1) operational emissions; and (2) Diesel Particulate Matter (DPM) emissions from Project construction. The full HRA can be found in Appendix H4 of the SEIS/SEIR.

Emissions of TACs from Project operational sources would occur from the (1) internal combustion of diesel or residual fuels in ships, tugboats, terminal equipment, and (2) external combustion of diesel or residual fuels in Ocean Going Vessels (OGV) service boilers. Emissions of TACs from Project construction sources would occur from the internal combustion of diesel fuels in construction equipment and associated harbor craft. For health effects resulting from long-term exposure to Project diesel emissions, the Project HRA only considered DPM emissions, in accordance with the Office of Environmental Health Hazard Assessment (OEHHA) guidance (OEHHA 2003). In regard to acute non-cancer effects from Project diesel sources, OEHHA assesses both criteria pollutants and chemicals that are subsets of VOCs and particulate matter. In addition to DPM, the HRA also considered other TAC emissions which would result from the construction and operation of the proposed Project. These would include diesel and distillate fuel combustion from external combustion sources such as boilers, fugitive organic compound emissions from the handling of crude oil, emissions for TACs from the thermal destruction of crude oil vapors in the VDUs, as well as natural gas combustion in the VDUs.

The maximum impacted residential receptor location for cancer risk was predicted to be located at the Cabrillo Marina. While not zoned for residential use, the Cabrillo Marina does have some long-term residents living aboard small boats. Although it is not clear whether these residents could permanently reside in this area (i.e., 70 years), this was assumed to be the case for the HRA. This is a conservative assumption. All other residential receptors in the local communities and vicinity would experience lower impacts than what is identified for the maximum impact location.

As shown in the SEIS/SEIR, the cancer impacts from the proposed Project without mitigation would be significant when compared to the SCAQMD's significance threshold. Prior to mitigation, the maximum CEQA increment for residential cancer risk predicted for the mitigated Project would be 12 in a million ( $12 \times 10^{-6}$ ), which is more than the significance criterion of 10 in a million. The maximum chronic and acute non-cancer Hazard Indices would be below the applicable significance threshold for all receptor types.

## **Finding**

Changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. These changes are set forth in Mitigation Measure AQ-1 through AQ-10, AQ-13 through AQ-16 and AQ-18 below:

### ***MM AQ-1: Ridesharing or Shuttle Service***

*Ridesharing or shuttle service programs shall be provided for construction workers. Ridesharing or shuttle service programs would provide emissions benefit by reducing vehicle traffic related to the construction workforce.*

### ***MM AQ-2: Staging Areas and Parking Lots***

*On-site construction equipment staging areas and construction worker parking lots shall be located on either paved surfaces, or unpaved surfaces covered by gravel or subjected to soil stabilization treatments. The staging areas and worker parking lots shall be located as close as*



possible to public access routes. Access to public roadways from the staging areas and parking lots shall be controlled in order to minimize idling of Project construction equipment.

**MM AQ-3: Construction Equipment Standards**

**Prior to and including December 31, 2011:** All on-site mobile diesel-powered construction equipment greater than 50 hp, except derrick barges and marine vessels shall meet the Tier 2 emission standards as defined in the USEPA Non-Road Diesel Engine Rule (USEPA 1998). In addition, all construction equipment greater than 50 hp shall be retrofitted with a CARB-certified Level 3 diesel emissions control device.

**From January 1, 2012 through December 31, 2014:** All off-road diesel-powered construction equipment greater than 50 hp shall meet Tier-3 emission off-road emission standards, at a minimum and shall be retrofitted with a CARB certified Level 3 diesel emissions control device.

**From January 1, 2015 on:** All off-road diesel-powered construction equipment greater than 50 hp shall meet Tier-4 emission off-road emission standards, at a minimum and shall be retrofitted with a CARB certified Level 3 diesel emissions control device.

This mitigation measure shall be met, unless one of the following circumstances exists and the contractor is able to provide proof that any of these circumstances exists

- A piece of specialized equipment is unavailable in a controlled form, or within the required Tier level, within the state of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

**MM AQ-4: Electricity Use**

Electricity supplied by a public utility shall be used where available on the tank farm and pier construction sites in lieu of temporary diesel or gasoline-powered generators. The use of utility power would have a beneficial impact on local air quality as compared to temporary diesel or gasoline-powered generators.

**MM AQ-5: Best Management Practices (BMPs)**

The following types of measures are required on construction equipment (including on-road trucks):

1. Use of diesel oxidation catalysts and catalyzed diesel particulate traps
2. Maintain equipment according to manufacturers' specifications

3. *Restrict idling of construction equipment and on-road heavy-duty trucks to a maximum of 5 minutes when not in use*
4. *Install high-pressure fuel injectors on construction equipment vehicles*
5. *Maintain a minimum buffer zone of 300 meters between truck traffic and sensitive receptors*
6. *Improve traffic flow by signal synchronization*
7. *Enforce truck parking restrictions*
8. *Provide on-site services to minimize truck traffic in or near residential areas, including, but not limited to, the following services: meal or cafeteria services, automated teller machines, etc.*
9. *Re-route construction trucks away from congested streets or sensitive receptor areas*
10. *Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site.*

*LAHD shall implement a process by which to select additional BMPs to further reduce air emissions during construction. The LAHD shall determine the BMPs once the contractor identifies and secures a final equipment list.*

***MM AQ-6: Additional Fugitive Dust Controls***

*The construction contractor shall reduce fugitive dust emissions by 90 percent from uncontrolled levels. The Project construction contractor shall specify dust-control methods that will achieve this control level in a SCAQMD Rule 403 dust control plan. Their duties shall include holiday and weekend periods when work may not be in progress. Measures to reduce fugitive dust include, but are not limited to, the following:*

- *Active grading sites shall be watered one additional time per day beyond that required by Rule 403.*
- *Contractors shall apply approved non-toxic chemical soil stabilizers according to manufacturer's specifications to all inactive construction areas or replace groundcover in disturbed areas (previously graded areas inactive for ten days or more).*
- *Construction contractors shall provide temporary wind fencing around sites being graded or cleared.*
- *Trucks hauling dirt, sand, or gravel shall be covered in accordance with Section 23114 of the California Vehicle Code.*
- *Construction contractors shall install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off tires of vehicles and any equipment leaving the construction site.*
- *Pave road and road shoulders.*
- *Require the use of clean-fueled sweepers pursuant to SCAQMD Rule 1186 and Rule 1186.1 certified street sweepers. Sweep streets at the end of each day if visible soil is carried onto paved roads on-site or roads adjacent to the site to reduce fugitive dust emissions.*
- *Appoint a construction relations officer to act as a community liaison concerning on-site construction activity including resolution of issues related to PM<sub>10</sub> generation.*

- *Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.*
- *Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow.*
- *Schedule construction activities that affect traffic flow on the arterial system to off-peak hours to the extent practicable.*
- *Require the use of electrified truck spaces for all truck parking or queuing areas.*

***MM AQ-7: Expanded VSR Program***

*All ships and barges used primarily to deliver construction-related materials to a LAHD-contractor construction site shall comply with the expanded Vessel Speed Reduction (VSR) program of 12 knots from 40 nautical miles (nm) from Point Fermin to the Precautionary Area.*

***MM AQ-8: Low-Sulfur Fuel for Construction Delivery Vessels***

*All ships and barges used primarily to deliver construction-related materials to a LAHD-contractor construction site shall use low-sulfur fuel (maximum sulfur content of 0.2 percent) in main engines, auxiliary engines, and boilers within 40 nm of Point Fermin.*

***MM AQ-9: Engine Standards for Harbor Craft Used in Construction***

*Prior to December 31, 2010, all harbor craft with C1 or C2 marine engines must achieve a minimum emission reduction equivalent to a U.S. Environmental Protection Agency (USEPA) Tier-2 2004 level off-road marine engine. From January 1, 2011 on, all harbor craft with C1 or C2 marine engines must utilize a U.S. USEPA Tier-3 engine, or cleaner.*

This mitigation measure shall be met unless one of the following circumstances exists and the contractor is able to provide proof that any of these circumstances exists:

- A piece of specialized equipment is unavailable in a controlled form, or within the required Tier level, within the state of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

***MM AQ-10: Fleet Modernization for On-Road Trucks***

***Prior to and including December 31, 2011:*** *All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used on-site or to transport materials to and from the site shall comply with USEPA 2004 on road emission standards for PM<sub>10</sub> and NO<sub>x</sub> (0.10 g/bhp-hr PM<sub>10</sub> and 2.0 g/bhp-hr NO<sub>x</sub>).*

***From January 1, 2012 on:*** All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used at the Port of Los Angeles shall comply with EPA 2007 on-road emission standards for PM10 and NOx (0.01 g/bhp-hr and 0.20 g/bhp-hr).

***All years:*** Trucks hauling materials such as debris or fill shall be fully covered while in operation off Port property.

This mitigation measure shall be met unless one of the following circumstances exists and the contractor is able to provide proof that any of these circumstances exists:

- A piece of specialized equipment is unavailable in a controlled form, or within the required Tier level, within the state of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

***MM AQ-11: Special Precautions near Sensitive Sites***

***For construction activities that occur within 1,000 feet of sensitive receptors (defined as schools, playgrounds, daycares, and hospitals), the Port shall notify each of these sites in writing at least 30 days before construction activities begin.***

***MM AQ-12 General Mitigation Measure***

***For any of the above mitigation measures (MM AQ-1 through AQ-11), if a CARB-certified technology becomes available and is shown to be as good as or better in terms of emissions performance than the existing measure, the technology could replace the existing measure pending approval by the Port.***

***MM AQ-13: Expanded Vessel Speed Reduction (VSR) Program***

***All ships calling (100%) at Berth 408 shall comply with the expanded VSR Program of 12 knots between 40 nm from Point Fermin and the Precautionary Area from Year 1 of operation.***

***MM AQ-14: Low Sulfur Fuel Use in Main Engines, Auxiliary Engines and Boilers***

***All ships (100%) calling at Berth 408 shall use 0.2% low sulfur fuel within 40 nm of Point Fermin on their outbound leg and while hotelling at the Project, beginning on day one of operation. Vessels calling at Berth 408 shall also use 0.2% low sulfur fuel within 40 nm of Point Fermin on their inbound leg, except where circumstances (such as ships with a mono-tank system or ships originating from a Port where low sulfur fuel is not available) make such use infeasible on the inbound leg. Regardless, the applicant shall adhere to the following annual phase-in schedule which identifies the minimum allowable annual percentage of vessels in the fleet calling***

at Berth 408 which shall use 0.2% low sulfur fuel within 40 nm of Point Fermin on their inbound leg:

**PLAMT Fuel Switch for Main Engines, Auxiliary Engines, and Boilers**

Year	Main Engines/Auxiliary Engines/Boilers					
	Inbound			Hoteling and Outbound		
	HFO	0.50%	0.20%	HFO	0.50%	0.20%
1	0	100	0	0	0	100
2	0	100	0	0	0	100
3	0	100	0	0	0	100
4	0	80	20	0	0	100
5	0	50	50	0	0	100
6	0	50	50	0	0	100
7-30	0	10	90	0	0	100

In addition, all callers carrying 0.2% low sulfur shall use 0.2% low sulfur within 40 nm of Point Fermin both on the inbound and outbound leg. Six months prior to operation of Berth 408 the applicant shall lead the effort, with Port support, in notifying all fuel suppliers/shippers of the low sulfur fuel requirements. This notification shall be achieved through publication of a notice in Bunker World (or other similar fuel supply trade publication) and by notification to all Berth 408 customers.

**MM-AQ 15: Alternative Maritime Power (AMP)**

By the end of year 2 of operation, all ships capable of utilizing AMP and all frequent callers (2 or more a year) shall use AMP at the facility. At a minimum, ships calling at the Berth 408 facility shall use AMP while hoteling at the Port in the following minimum percentages:

- By end of year 2 of operation – 6 (4%) vessel calls
- By end of year 3 of operation – 10% of annual vessel calls
- By end of year 5 of operation – 15% of annual vessel calls
- By end of year 10 of operation – 50% of annual vessel calls
- By the end of year 16 of operation- 80% of annual vessel calls

**MM AQ-16: Slide Valves**

Ships calling at Berth 408 shall be equipped with slide valves or a slide valve equivalent (an engine retrofit device designed to reduce the sac volume in fuel valves of main engines in Category 3 marine engines) to the maximum extent possible.

**MM AQ-17: Parking Configuration**

Configure parking during operation to minimize traffic interference. Because the effectiveness of this measure cannot be predicted, it is not quantified in this study. This measure incorporates the requirements of MM 4G-14 from the 1992 Deep Draft FEIS/FEIR

**MM AQ-18: New Vessel Builds**

The purchaser shall confer with the ship designer and engine manufacture to determine the feasibility of incorporating all emission reduction technology and/or design options and when ordering new ships bound for the Port of Los Angeles. Such technology shall be designed to

*reduce criteria pollutant emissions (NO<sub>x</sub>, SO<sub>x</sub>, and PM) and GHG emission (CO, CH<sub>4</sub>, O<sub>3</sub>, and CFCs). Design considerations and technology shall include, but is not limited to:*

- 1. Selective Catalytic Reduction Technology*
- 2. Exhaust Gas Recirculation*
- 3. In-line fuel emulsification technology*
- 4. Diesel Particulate Filters (DPFs) or exhaust scrubbers*
- 5. Common Rail*
- 6. Low NO<sub>x</sub> Burners for Boilers*
- 7. Implement fuel economy standards by vessel class and engine*
- 8. Diesel-electric pod propulsion systems*

***MM AQ-19: Equivalent Measures/General Mitigation Measure***

*For any of the above mitigation measures (MM AQ-13 through AQ-18), if any kind of technology becomes available and is shown to be as good or as better in terms of emissions reduction performance than the existing measure, the technology could replace the existing measure pending approval by the Port of Los Angeles. The technology's emissions reductions must be verifiable through USEPA, CARB, or other reputable certification and/or demonstration studies to the Port's satisfaction. This measure is intended to provide PLAMT the flexibility to achieve required emissions mitigation using alternative methods that may not be apparent at present.*

*The applicant may use an AMP alternative emission reduction technology so long as the alternative technology will achieve emission reductions equivalent to the emission reductions that would have been achieved through the use of AMP.*

***MM AQ-20: Periodic Review of New Technology and Regulations***

*The Port shall require the tenant to review, in terms of feasibility, any Port-identified or other new emissions-reduction technology, and report to the Port. Such technology feasibility reviews shall take place at the time of the Port's consideration of any lease amendment or facility modification. If the technology is determined by the Port to be feasible in terms of cost, technical and operational feasibility, the tenant shall work with the Port to implement such technology at sole cost to the tenant.*

*Potential technologies that may further reduce emission and/or result in cost-savings benefits for the tenant may be identified through future work on the CAAP. Over the course of the lease, the tenant and the Port shall work together to identify potential new technology. Such technology shall be studied for feasibility, in terms of cost, technical and operational feasibility. The effectiveness of this measure depends on the advancement of new technologies and the outcome of future feasibility or pilot studies. If the tenant requests future Project changes that would require environmental clearance and a lease amendment, future CAAP mitigation measures would be incorporated into the new lease at that time.*

*As partial consideration for the Port's agreement to issue the permit to the tenant, tenant shall implement not less frequently than once every 7 years following the effective date of the permit, new air quality technological advancements, subject to the parties mutual agreement on operational feasibility and cost sharing which shall not be unreasonably withheld.*

*In addition, the Port shall require the tenant to evaluate the application of a AMECs or similar stack control technology within 5 years of project approval and implement such technology, pending separate CEQA analysis, if found to be feasible*

**MM AQ-21: Throughput Tracking**

*If the project exceeds project throughput assumptions / projections anticipated through the years 2010, 2015, 2025, or 2040, staff shall evaluate the effects of this on the emission sources (ship calls and crude oil throughput) relative to the SEIS/SEIR. If it is determined that these emission sources exceed SEIS/SEIR assumptions, staff would evaluate actual air emissions for comparison with the SEIS/SEIR and if the criteria pollutant emissions exceed those in the SEIS/SEIR, then new or additional mitigations would be applied through MM AQ-20.*

**Deep Draft FEIS/FEIR MM 4G-5:** *Discontinue construction activities during a Stage II Smog Alert.*

**Rationale for Finding**

Mitigation Measure AQ-1 through AQ-10, AQ-13 through AQ-16 and AQ-18 would be implemented as part of the Project to reduce diesel particulate matter and other TAC emissions. The cancer impacts from the proposed Project after mitigation would be less than significant when compared to the SCAQMD's significance threshold. After mitigation, the maximum CEQA increment for residential cancer risk predicted for the mitigated Project would be reduced to 5.3 in a million ( $5.3 \times 10^{-6}$ ), which is less than the significance criterion of 10 in a million. The maximum mitigated Project CEQA cancer risk increments at other receptor types would also remain below the 10 in a million significance criterion. The maximum chronic and acute non-cancer Hazard Indices would also be below the applicable significance thresholds for all receptor types.

**Biological Resources**

As discussed in Section 3.3 of the SEIS/SEIR, there would be two significant impacts to Biological Resources that would be mitigated to less than significant levels as a result of mitigation measures incorporated into the Project. The impacts and mitigation measures are discussed below.

**Impact Bio-1.1: Construction of proposed Project facilities could affect individuals of or habitat for the California least tern and other special status species**

California least tern. Impacts would be less than significant for construction activities that are more than 200 ft (61 m), or other established buffer distance, from the nesting site when the terns are present, except for stone column installation and temporary lighting at Tank Farm Site 1. Construction activities closer than approximately 200 ft (61 m) to the nesting site when the terns are present could have significant impacts. Stone column installation at Tank Farm Site 1 and construction lighting while the terns are nesting could have significant impacts.

California brown pelican. No roosting areas on the breakwaters would be directly or indirectly affected by the proposed Project, and the species does not nest in the Harbor area. Foraging by brown pelicans can occur throughout Harbor and nearshore waters. The only construction activity that would occur in or immediately adjacent to the water would be construction of the Marine Terminal and installation/removal of temporary mooring piles at staging area 412, if this site is used for delivery of stone column gravel. However, this would only affect a small area of potential brown pelican foraging habitat, relative to the amount of comparable habitat present in the Outer Harbor and nearby nearshore waters, for a short time. Therefore impacts of construction activities would be less than significant under CEQA.

Western snowy plover. Western snowy plovers are not known to nest in the Harbor, so there would be no potential for impacts to nesting by this species. Additionally, since construction activities associated with the proposed Project would not directly affect the California least tern nesting site and Cabrillo Beach, habitat used by western snowy plovers that occasionally visit the least tern nesting site and those that winter at Cabrillo Beach also would not be affected, therefore construction would have no impacts.

Other special status species. Since Tank Farm Site 1 would not be cleared for construction and would be left vacant at the beginning of the nesting season, black skimmers would be unlikely to use this area for nesting, resulting in no impacts to this species. If vegetation clearing at Tank Farm Site 1 for construction resulted in black skimmer nesting at the site, injury to nesting birds and disruption of nesting would be a significant impact. If burrowing owls were nesting at the Tank Farm Site 1 and nesting was disrupted, impacts would be significant. Impacts to other special status species, including marine mammals, would be less than significant. Construction activities on Pier 400 would have little or no effect on other listed and special status species because they do not breed on-site and the few individuals of those species that could be present on or near the proposed Project site would be expected to avoid the construction activities.

## Finding

Changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. These changes are set forth in Mitigation Measure BIO-1.1a through BIO-1.1j below:

***MM BIO-1.1a: Monitor the California Least Tern and Other Bird Nesting.***

*A qualified least tern biologist hired by the Port shall monitor least tern and other special status bird nesting during construction activities on Pier 400, including installation of Pipeline Segment 1 to Tank Farm Site 2 and use of staging area 412. Monitoring shall occur from 2 weeks prior to the nesting season start (April) to the end of the nesting season (September or when the last bird has vacated the site and no birds return for at least two weeks). Monitoring shall occur at a minimum of three days a week during the nesting season, which generally extends from mid-May through the beginning of August.*

*In the event of an imminent threat to nesting special status species and the Construction Manager is not immediately available, the monitor shall have the authority to redirect construction activities. If construction activities need to be redirected to prevent impacts to special status birds, the monitor shall immediately contact the LAHD Environmental Management Division, Port Inspector, and Construction Manager. The Construction Manager has the authority to halt construction if determined to be necessary.*

***MM BIO-1.1b: Stone Column Installation Monitoring.***

*At Tank Farm Site 1, no stone column construction shall occur at night (sunset to sunrise), and if possible, stone column construction during daytime hours should be conducted outside the least tern nesting season. If stone column installation is unavoidable during the nesting season, the work shall be phased so that installation nearest the nesting site is conducted prior to or after the nesting season, and a qualified biologist shall monitor the least terns at the nesting site during stone column installation to identify adverse reactions of the birds to this activity. If the terns react adversely to work at any of these sites, work will be temporarily stopped. The LAHD Environmental Management Division, least tern biologist, and Construction Manager shall confer with the USFWS and CDFG regarding necessary further actions.*



**MM BIO-1.1c: Construction Schedule.**

*All construction activities that are within 200 ft (61 m) of the California least tern nesting site and foraging areas shall be scheduled to occur between September and March, unless otherwise approved by the USFWS and CDFG. This includes installation and removal of mooring piles as well as gravel delivery at staging area 412 (see Port brochure in Appendix J).*

**MM BIO-1.1d: Construction Contractor Environmental Training.**

*The Port shall provide environmental training by a qualified biologist to all construction contractor personnel working at the site. This shall include, but not be limited to, information about the California least tern (e.g., seasonal presence, pictures of the birds, and regulatory protections) and other special status species (e.g., black skimmer and burrowing owl) and measures required to avoid or minimize the potential for impacts to these species. The latter measures shall include placement of food in sealed containers and daily disposal of all food wastes in sealed containers, with off-site disposal at regular intervals during construction; prohibition of pets or animals of any kind during work on Pier 400; limiting activities within 200 ft (61m), or other established buffer distance, of the nesting site from March through August, to the extent feasible; and scheduling construction activities that would be near the nesting site for the period between September and March.*

**MM BIO-1.1e: Perches.**

*When California least terns are present at the nesting site, idle construction equipment and stockpiles of materials exceeding approximately 8 ft (2.4 m) in height shall be placed so that they do not provide perches for birds that could prey on least terns.*

**MM BIO-1.1f: Lighting.**

*Night time construction at Tank Farm Site 1 and construction staging area 412 during the least tern nesting season should be avoided. All lighting (temporary and security) shall be directed away from the California least tern nesting site and shielded to minimize increased light in the nesting area.*

**MM BIO-1.1g: Vegetation Clearing.**

*Vegetation growing at Tank Farm Site 1 shall only be cleared immediately prior to construction activities occurring from April through August to discourage and protect least terns and black skimmers from nesting within the work area. Areas cleared at other times of the year will not be left barren and vacant during the nesting season.*

**MM BIO-1.1h: Protection of Special Status Species Nesting Birds.**

*To avoid impacts to nesting special status species, such as the California least tern, black skimmer, and burrowing owl, that might nest within Tank Farm Site 1, a preconstruction survey shall be conducted by a qualified biologist if construction commences during the normal nesting season for most bird species (February 1 to August 1) to determine if any are nesting there. If any nesting is found, a buffer area of 200 ft (61 m) shall be established and protective measures shall be finalized in coordination with the USFWS and CDFG (and the USACE for federally listed species). If any nesting is found, an initial buffer area of 200 ft (61 m) shall be established, and the biological monitor would work with the LAHD Environmental Management Division (EMD) and their CLT consultant, Port Inspector, and Construction Manager to ensure protection of the least terns while nesting. As appropriate, the USACE, U.S. Fish and Wildlife Service and CDFG would be consulted regarding the safe distance setback requirements.*

*Nesting birds shall be protected until nesting is complete or young have fledged as determined by a qualified biologist.*

**MM BIO-1.1i: Protection of California Least Tern Nesting.**

*During construction, no unauthorized vehicles or persons shall be allowed within 200 ft (61 m) of the east side and northeast corner of the least tern nesting site (the “at grade portion”) during the nesting season. Signs shall be posted, and barriers (e.g., temporary fencing) shall be provided if signage is not adequate.*

**MM BIO-1.1j: Noise Buffer.**

*Construction of the north-south oriented containment dikes at Tank Farm Site 1 should occur early in site development to aid as noise buffers during construction.*

In addition, based on a comment received from National Marine Fisheries Service (NMFS-4) regarding potential noise impacts on Biological communities, the following mitigation measures was added to both the Biology and Noise Sections of the Final SEIS/SEIR:

**MM BIO-1.1k: Noise Reduction during Pile Driving**

*The contractor shall be required to use sound abatement techniques to reduce both noise and vibrations from pile driving activities. Sound abatement techniques shall include, but are not limited to, vibration or hydraulic insertion techniques, drilled or augured holes for cast-in-place piles, bubble curtain technology, and sound aprons where feasible. At the initiation of each pile driving event, the pile driving shall also employ a “soft-start” in which the hammer is operated at less than full capacity (i.e., approximately 40–60% energy levels) with no less than a 1-minute interval between each strike for a 5-minute period.*

*In addition, a qualified biologist hired by the Port shall be required to monitor the area in the vicinity of pile driving activities for any fish kills during pile driving. If there are any reported fish kills, pile driving shall be halted and the USACE and NMFS shall be notified via the Port’s Environmental Management Division. The biological monitor shall also note (surface scan only) whether marine mammals are present within 100 meters of the pile driving, and if any are observed, temporarily halt pile driving until the observed mammals move beyond this distance.*

**Rationale for Finding**

With implementation of MM BIO-1.1a through MM BIO-1.1k, residual impacts on the California least tern and other special status species as a result of proposed Project construction activities would be less than significant.

**Impact BIO-4.1: Proposed Project construction activities could substantially disrupt local biological communities**

Impacts of pollutant runoff, noise and vibration, turbidity, and introduction of invasive species to most local biological communities would be less than significant under CEQA. Fish and bird populations would not be adversely affected due to the small number of individuals affected, the small numbers of individuals moving into other areas, the short duration of the disturbance, and the small proportion of the Harbor affected. Upon completion of construction, the displaced individuals would be able to return, resulting in no substantial disruption of Outer Harbor biological

communities. Since Tank Farm Site 1 would not be cleared for construction and would be left vacant at the beginning of the nesting season, elegant terns and Caspian terns would be unlikely to use this area for nesting, resulting in no impacts to these species. If vegetation clearing at Tank Farm Site 1 for construction resulted in elegant tern and/or Caspian tern nesting at the site, injury to nesting birds and disruption of nesting would be a significant impact. The small amount of water column habitat replaced with hard substrate marine habitat would not represent a permanent loss of aquatic habitat, and proposed Project construction impacts would be less than significant. Accidental spills of pollutants during in-water construction would be unlikely to occur and would have less than significant impacts if any did occur. Loss or alteration of terrestrial habitats would result in less than significant impacts because the areas affected would be small with minimal value to wildlife, and project-related landscaping at the Marine Terminal and Tank Farm Site 2 would replace the low values lost.

### **Finding**

Changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. These changes are set forth in the above MM BIO-1.1g and MM BIO-1.1h.

### **Rationale for Finding**

With implementation of MM BIO-1.1a through MM BIO-1.1h, residual impacts on the California least tern and other special status species as a result of proposed Project construction activities would be less than significant.

Impacts in the following resource areas were found to be less than significant prior to mitigation. However, mitigation was included to further reduce the potential for impacts to the environment.

## **Biological Resources**

As discussed in Section 3.3 of the SEIS/SEIR, there would be one mitigation measure applied to the proposed Project to avoid or lessen a potentially significant impact to Biological Resources. The mitigation measure is discussed below.

### **Impact BIO-2.1: Construction of proposed Project facilities would not substantially reduce or alter a state-, federally-, or locally-designated natural habitat or plant community, including wetlands.**

Natural Habitats. Construction would have no impacts on natural habitats such as eelgrass beds, mudflats, or wetlands because none are present at or near the proposed Project site. The small amounts of marine algae affected by construction of Berth 408 and a temporary mooring at staging area 412, if the latter is used, would have less than significant impacts to kelp beds because a small area would be affected, the sparse algal cover that is present does not form a kelp bed, and rapid recovery would occur after the temporary mooring is removed. Impacts to the least tern SEA would be less than significant with mitigation, as discussed for **Impact BIO-1.1**.

Essential Fish Habitat. Temporary disturbances in the water during Berth 408 and temporary mooring construction would cause no substantial alteration of EFH or loss of fish in managed species

as described above, including conversion of a small amount of soft bottom to hard substrate habitat, and impacts would be less than significant under CEQA. Construction activities at the tank farm sites and for new pipeline installation would have no direct impacts on EFH because none is present at those sites. Indirect impacts through runoff of sediments during storm events would be less than significant because such runoff would be controlled as described for water quality in Section 3.14 (e.g., project-specific SWPPP with BMPs such as sediment barriers and sedimentation basins). In addition, the work would be conducted in compliance with applicable permits, such as USACE's Section 10 (Rivers and Harbors Act) and LARWQCB's 401 certification.

## **Finding**

Although no mitigation is required, changes or alterations have been incorporated into the project that further avoid or substantially lessen the significant environmental effect identified in the Final SEIR. These changes are set forth in Mitigation Measure BIO-1.k below:

### ***MM BIO 1.1k***

*The contractor shall be required to use sound abatement techniques to reduce both noise and vibrations from pile driving activities. Sound abatement techniques shall include, but are not limited to, vibration or hydraulic insertion techniques, drilled or augured holes for cast-in-place piles, bubble curtain technology, and sound aprons where feasible. At the initiation of each pile driving event, the pile driving shall also employ a "soft-start" in which the hammer is operated at less than full capacity (i.e., approximately 40–60% energy levels) with no less than a 1-minute interval between each strike for a 5-minute period.*

*In addition, a qualified biologist shall be required to monitor the area in the vicinity of pile driving activities for any fish kills during pile driving. If there are any reported fish kills, pile driving shall be halted and the USACE and NMFS shall be notified via the Port's Environmental Management Division. The biological monitor shall also note (surface scan only) whether marine mammals are present within 100 meters of the pile driving, and if any are observed, temporarily halt pile driving until the observed mammals move beyond this distance.*

## **Rationale for Finding**

With implementation of MM BIO-1.1k, residual impacts would be less than significant.

## **Cultural Resources**

As discussed in Section 3.4 of the SEIS/SEIR, there would be one mitigation measure applied to the proposed Project to avoid or lessen a potentially significant impact to Cultural Resources. The mitigation measure is discussed below.

### **Impact CR-1a: Construction activities would have a low potential to disturb archaeological cultural resources**

No historic resources eligible for listing in the NRHP or the CRHR are recorded within the proposed Project area. The proposed Pier 400 Marine Terminal and Tank Farm Site 1 are located on imported fill soils, such that the probability of encountering intact, unknown historic resources is remote. Construction activities associated with Pipeline Segments 2a, 2b, 2c and Tank Farm Site 2 on Terminal Island and portions of proposed Pipeline Segments 3 and 4 from Mormon Island to Plains pipelines systems near Henry Ford Avenue and near or on the Ultramar/Valero Refinery would potentially encroach within native soils. Construction activities associated with Pipelines Segment 5 and the Piggings Station at

Site A or at Site B would also potentially encroach within native soils. The potential for impacts to archaeological resources in these areas are predicted to be very low if jack and bore or directional drilling techniques are used. Given the fact that no archaeological resources have been identified within the proposed Project area during previous archaeological investigations, the potential for impacting archaeological resources is considered to be low in areas requiring trenching or other activities that may disturb intact surface soils. Based on this analysis, proposed construction activities would result in less than significant impacts on archaeological cultural resources, and less than significant impact on in-water cultural resources.

## Finding

Although the potential for impacts on unknown archaeological cultural resources is low, the following mitigation measure is provided in the unlikely event unknown, intact, potentially significant on-land archaeological resources eligible for listing in the NRHP, the CRHR, or otherwise considered a unique or important archaeological resource under CEQA are encountered during construction:

***MM CR-1a.** Stop work in area if prehistoric and/or historical archaeological resources are encountered. In the unlikely event that any artifact, or an unusual amount of bone, shell, or non-native stone is encountered during construction, work shall be immediately stopped and relocated to another area. The contractor shall stop construction within 10 meters (30 feet) of the exposure of these finds until a qualified archaeologist can be retained by the Port to evaluate the find (see 36 CFR 800.11.1 and California Code of Regulations, Title 14, Section 15064.5(f)). Examples of such cultural materials might include concentrations of ground stone tools such as mortars, bowls, pestles, and manos; chipped stone tools such as projectile points or choppers; flakes of stone not consistent with the immediate geology such as obsidian or fused shale; historic trash pits containing bottles and/or ceramics; or structural remains. If the resources are found to be significant, they shall be avoided or shall be mitigated consistent with SHPO Guidelines. All construction equipment operators shall attend a preconstruction meeting presented by a professional archaeologist retained by the Port that shall review types of cultural resources and artifacts that would be considered potentially significant, to ensure operator recognition of these materials during construction.*

*Prior to beginning construction, the Port shall meet with applicable Native American Groups, including the Gabrieliño/Tongva Tribal Council, to identify areas of concern. A trained archaeologist shall monitor construction at identified areas. In addition to monitoring, a treatment plan shall be developed in conjunction with the Native American Groups to establish the proper way of extracting and handling all artifacts in the event of an archaeological discovery.*

## Rationale for Finding

In the highly unlikely event that intact archaeological and/or human remains are identified during construction, MM CR-1a would ensure that the materials and remains were evaluated and mitigated according to professional standards, as well as state law. Residual impacts would be less than significant.

## **Geological Resources**

As discussed in Section 3.5 of the SEIS/SEIR, there would be one mitigation measure applied to the proposed Project to avoid or lessen a potentially significant impact to Geological Resources. The mitigation measure is discussed below.

**Impact GEO-3: The proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from subsidence/soil settlement.**

Subsidence in the vicinity of the proposed Project, due to previous oil extraction in the Port area, has been mitigated and is not anticipated to adversely impact the site. Impacts would be less than significant under CEQA because the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from subsidence/soil settlement.

Settlement impacts in onshore areas related to construction would be less than significant under CEQA, as the project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by the LAHD and Caltrans, and would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury.

### **Finding**

Because impacts would be less than significant, mitigation measures are not required. However, the following mitigation measure from the Deep Draft FEIS/FEIR would further reduce the potential for impacts:

***MM 4A-6: Minimization of Settlement.** A site-specific geotechnical investigation shall be completed by a California-licensed geotechnical engineer and/or engineering geologist. The results shall be incorporated into the structural design of Project components.*

### **Rationale for Finding**

With implementation of a site-specific geotechnical investigation and Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, the residual impacts would be less than significant under CEQA.

## **Marine Transportation**

As discussed in Section 3.9 of the SEIS/SEIR, there would be one mitigation measure applied to the proposed Project to avoid or lessen a potentially significant impact to Marine Transportation. The mitigation measure is discussed below.

**Impact MT-1.3: Support vessels and waterside berth facilities associated with the Project Marine Terminal could impact marine vessel safety within the Port**

Numerous vessels would be associated with normal terminal operations, including tugboats to assist the tankers and support vessels for activities such as oil spill boom deployment. These vessels could contribute to vessel navigation hazards. In addition, the terminal would include several structures on the waterside of the dock, including the mooring dolphins, the alternative maritime power (AMP) platform, and loading arms. All of these facilities would be constructed within the established berth footprint and would include navigational aids to mark the potential hazard.

Port pilots would be briefed on all Berth 408 operational activities and would easily avoid the potential hazards posed by dockside activities. As standard safety precautions would be utilized by the Port (see sections above) in piloting larger vessels through harbor waters and adjacent to the operational support vessels at Berth 408, the short-term presence of support vessels at the proposed Berth 408 would not reduce the existing level of safety for vessel navigation in the Port. Therefore, operational impacts to vessel traffic would be less than significant

### **Finding**

No mitigation is required. However, MM 4E-8 from the Deep Draft FEIS/FEIR (Shield Terminal Lights) would apply. As discussed in Section 3.9.1.1, this measure was developed to mitigate the problem of distinguishing navigation lights from background lights on Pier 400. Under this mitigation measure, the seaward sides of terminal lights would be shielded to reduce their interference with aids to navigation lights.

## **Risk of Upset and Hazardous Materials**

As discussed in Section 3.12 of the SEIS/SEIR, there would be two mitigation measure applied to the proposed Project to avoid or lessen a potentially significant impact to Risk of Upset and Hazardous Materials. The mitigation measures are discussed below.

### **Impact RISK-2.2: An accidental oil spill from the proposed Project pipelines would pose a risk to the marine environment.**

The probability of spills into water from all proposed Project pipelines (i.e., proposed Pipeline Segments 1, 2a, 2b, 2c, 3, 4, and 5) would have a frequency that is considered Extraordinary. Therefore, for all proposed pipelines, potential impacts would be considered less than significant due to the low probability that a pipeline-related spill would reach the Port waters in any appreciable volume. In addition, the project will be required to meet the requirements of **MM 4I-3** from the 1992 Deep Draft FEIS/FEIR, which requires spill containment to prevent oil from reaching the water.

Potential spills from the two existing KMEP (6 and 7) pipeline segments that would be utilized as part of the proposed Project have the greatest potential in reaching Port waters. The probability of a spill reaching Port waters is considered Rare, but with Severe consequences suggesting significant impacts. However, these two existing pipeline segments are part of the CEQA Baseline and potential increases in spill risk over baseline associated with the proposed Project is negligible. Because the two existing pipelines currently contain petroleum products (crude oil or cutter stock), the frequency of a spill is essentially unchanged by the proposed Project. The maximum spill volume is based on current operating conditions (for example, peak throughput, pressure, and temperature) which will not change as part of the proposed Project. Therefore, the proposed Project would have the same

failure frequency and same maximum spill volume as baseline conditions and the impacts are considered less than significant.

Oil spills would affect biological and water resources, however, there are no public safety hazards from an oil spill unless it ignites (impacts from a spill and fire are discussed in the next impact discussion). Therefore, the public safety impacts from project-related pipeline spills would be less than significant.

### **Finding**

No mitigation is required. However, as noted, the proposed Project will be required to meet the requirements of **MM 4I-3** from the 1992 Deep Draft FEIS/FEIR, which requires that the overland transportation corridor be designed so that spills along the corridor would be contained and not allowed to run off into the water.

### **Rationale for Finding**

With implementation MM 4I-3 the residual impacts would be less than significant under CEQA.

### **Impact RISK-3.2: Potential tank farm spills and subsequent fires would result in risks to the public and environment.**

The tank farm sites would be equipped with sophisticated fire suppression apparatus that would minimize the impacts of spill resulting in a fire. The risk of an accidental release of a hazardous substance from an oil spill and subsequent fire or explosion that would substantially impact surrounding residents or businesses is less than significant at both tank farm sites.

### **Finding**

In accordance with **MM 4I-4** from the Deep Draft FEIS/FEIR (USACE and LAHD 1992), the proposed Project would have built-in fire protection measures and would be designed to meet the requirements of the Uniform Fire Code and NFPA 30 standards. These standards require fixed fire monitoring and suppression systems for facilities handling crude oil. The proposed Project is designed to meet or exceed all applicable codes and standards.

The proposed Project would also be equipped to use seawater for fire protection in addition to fresh water supplied to the facilities, in accordance with **MM 4I-5** from the Deep Draft FEIS/FEIR (USACE and LAHD 1992). Specific equipment and flow rates would be included in the Fire Protection Plan to be approved by the Los Angeles Fire Department (LAFD).

### **Rationale for Finding**

With implementation MM 4I-4 and MM 4I-5, the residual impacts would be less than significant under CEQA.



## **Significant and Unavoidable Environmental Impacts That Cannot Be Reduced to a Less-Than-Significant Level**

**Unavoidable Significant Impacts** The SEIS/SEIR concludes that unavoidable significant impacts to the following environmental resources would occur if the proposed project were implemented.

*Air Quality and Meteorology*

*Biological Resources*

*Geology*

*Noise*

*Recreation*

*Risk of Upset and Hazardous Materials*

*Water Quality Sediments and Oceanography*

Attachment 1 contains a list of comments received on the Draft SEIS/SEIR that contain suggested mitigation measures and/or alternatives suggested to reduce significant and unavoidable impacts. The discussion below refers to Attachment 1 and indicates whether the proposed mitigation measure and/or alternative has been added to the Final SEIR and/or incorporated into the Project. The Board has determined that certain proposed mitigation measures and/or alternatives are infeasible in light of specific economic, legal, social, technological, and other considerations and, therefore, have not been incorporated into the Project. The evidence of such infeasibility is explained below within the discussions of the significant impacts for which the measures and/or alternatives were suggested.

### **Air Quality**

As discussed in Section 3.2 of the DEIR, there would be unavoidable significant impacts to air quality and meteorology related to construction and operation as a result of the proposed Project. The impacts and mitigation measures are discussed below.

#### **Impact AQ-1: The proposed Project would result in construction-related emissions that exceed a SCAQMD threshold of significance**

The construction phase of the proposed Project includes constructing the Marine Terminal, Tank Farm Site 1, and pipelines, and Tank Farm Site 2. The maximum daily emissions for construction would exceed significance criteria for all pollutants (VOCs, CO, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>).

#### **Finding**

The SEIS/SEIR discussed impacts to regional air quality that would result during construction activities associated with the proposed project (Impact AQ-1). Implementation of these measures would substantially lessen emissions from criteria pollutants associated with construction of the proposed Project, as listed in Table 2, below. Therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. However, emissions of VOC, CO, NO<sub>x</sub>, PM<sub>10</sub>, and

PM<sub>2.5</sub> during construction would remain significant under CEQA. In the Final SEIR, AQ-3, AQ-5, AQ-6 and AQ-10 were amended to further reduce construction emissions. Incorporation of these mitigation measures, however, would still not reduce construction emissions below significance. Specific economic, legal, social, technological, or other considerations make infeasible additional mitigation measures or project alternatives, however, as explained below.

***MM AQ-1: Ridesharing or Shuttle Service***

*Ridesharing or shuttle service programs shall be provided for construction workers. Ridesharing or shuttle service programs would provide emissions benefit by reducing vehicle traffic related to the construction workforce.*

***MM AQ-2: Staging Areas and Parking Lots***

*On-site construction equipment staging areas and construction worker parking lots shall be located on either paved surfaces, or unpaved surfaces covered by gravel or subjected to soil stabilization treatments. The staging areas and worker parking lots shall be located as close as possible to public access routes. Access to public roadways from the staging areas and parking lots shall be controlled in order to minimize idling of Project construction equipment.*

***MM AQ-3: Construction Equipment Standards***

***Prior to and including December 31, 2011:*** *All on-site mobile diesel-powered construction equipment greater than 50 hp, except derrick barges and marine vessels shall meet the Tier 2 emission standards as defined in the USEPA Non-Road Diesel Engine Rule (USEPA 1998). In addition, all construction equipment greater than 50 hp shall be retrofitted with a CARB-certified Level 3 diesel emissions control device.*

***From January 1, 2012 through December 31, 2014:*** *All off-road diesel-powered construction equipment greater than 50 hp shall meet Tier-3 emission off-road emission standards, at a minimum and shall be retrofitted with a CARB certified Level 3 diesel emissions control device.*

***From January 1, 2015 on:*** *All off-road diesel-powered construction equipment greater than 50 hp shall meet Tier-4 emission off-road emission standards, at a minimum and shall be retrofitted with a CARB certified Level 3 diesel emissions control device.*

This mitigation measure shall be met, unless one of the following circumstances exists and the contractor is able to provide proof that any of these circumstances exists

- A piece of specialized equipment is unavailable in a controlled form, or within the required Tier level, within the state of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

**MM AQ-4: Electricity Use**

*Electricity supplied by a public utility shall be used where available on the tank farm and pier construction sites in lieu of temporary diesel or gasoline-powered generators. The use of utility power would have a beneficial impact on local air quality as compared to temporary diesel or gasoline-powered generators.*

**MM AQ-5: Best Management Practices (BMPs)**

*The following types of measures are required on construction equipment (including on-road trucks):*

- 1. Use of diesel oxidation catalysts and catalyzed diesel particulate traps*
- 2. Maintain equipment according to manufacturers' specifications*
- 3. Restrict idling of construction equipment and on-road heavy-duty trucks to a maximum of 5 minutes when not in use*
- 4. Install high-pressure fuel injectors on construction equipment vehicles*
- 5. Maintain a minimum buffer zone of 300 meters between truck traffic and sensitive receptors*
- 6. Improve traffic flow by signal synchronization*
- 7. Enforce truck parking restrictions*
- 8. Provide on-site services to minimize truck traffic in or near residential areas, including, but not limited to, the following services: meal or cafeteria services, automated teller machines, etc.*
- 9. Re-route construction trucks away from congested streets or sensitive receptor areas*
- 10. Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site.*

*LAHD shall implement a process by which to select additional BMPs to further reduce air emissions during construction. The LAHD shall determine the BMPs once the contractor identifies and secures a final equipment list.*

**MM AQ-6: Additional Fugitive Dust Controls**

*The construction contractor shall reduce fugitive dust emissions by 90 percent from uncontrolled levels. The Project construction contractor shall specify dust-control methods that will achieve this control level in a SCAQMD Rule 403 dust control plan. Their duties shall include holiday and weekend periods when work may not be in progress. Measures to reduce fugitive dust include, but are not limited to, the following:*

- Active grading sites shall be watered one additional time per day beyond that required by Rule 403.*
- Contractors shall apply approved non-toxic chemical soil stabilizers according to manufacturer's specifications to all inactive construction areas or replace groundcover in disturbed areas (previously graded areas inactive for ten days or more).*

- *Construction contractors shall provide temporary wind fencing around sites being graded or cleared.*
- *Trucks hauling dirt, sand, or gravel shall be covered in accordance with Section 23114 of the California Vehicle Code.*
- *Construction contractors shall install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off tires of vehicles and any equipment leaving the construction site.*
- *Pave road and road shoulders.*
- *Require the use of clean-fueled sweepers pursuant to SCAQMD Rule 1186 and Rule 1186.1 certified street sweepers. Sweep streets at the end of each day if visible soil is carried onto paved roads on-site or roads adjacent to the site to reduce fugitive dust emissions.*
- *Appoint a construction relations officer to act as a community liaison concerning on-site construction activity including resolution of issues related to PM<sub>10</sub> generation.*
- *Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.*
- *Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow.*
- *Schedule construction activities that affect traffic flow on the arterial system to off-peak hours to the extent practicable.*
- *Require the use of electrified truck spaces for all truck parking or queuing areas.*

***MM AQ-7: Expanded VSR Program***

*All ships and barges used primarily to deliver construction-related materials to a LAHD-contractor construction site shall comply with the expanded Vessel Speed Reduction (VSR) program of 12 knots from 40 nautical miles (nm) from Point Fermin to the Precautionary Area.*

***MM AQ-8: Low-Sulfur Fuel for Construction Delivery Vessels***

*All ships and barges used primarily to deliver construction-related materials to a LAHD-contractor construction site shall use low-sulfur fuel (maximum sulfur content of 0.2 percent) in main engines, auxiliary engines, and boilers within 40 nm of Point Fermin.*

***MM AQ-9: Engine Standards for Harbor Craft Used in Construction***

*Prior to December 31, 2010, all harbor craft with C1 or C2 marine engines must achieve a minimum emission reduction equivalent to a U.S. Environmental Protection Agency (USEPA) Tier-2 2004 level off-road marine engine. From January 1, 2011 on, all harbor craft with C1 or C2 marine engines must utilize a U.S. USEPA Tier-3 engine, or cleaner.*

This mitigation measure shall be met unless one of the following circumstances exists and the contractor is able to provide proof that any of these circumstances exists:

- A piece of specialized equipment is unavailable in a controlled form, or within the required Tier level, within the state of California, including through a leasing agreement.

- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

***MM AQ-10: Fleet Modernization for On-Road Trucks***

***Prior to and including December 31, 2011:*** All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used on-site or to transport materials to and from the site shall comply with USEPA 2004 on road emission standards for PM<sub>10</sub> and NO<sub>x</sub> (0.10 g/bhp-hr PM<sub>10</sub> and 2.0 g/bhp-hr NO<sub>x</sub>).

***From January 1, 2012 on:*** All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used at the Port of Los Angeles shall comply with EPA 2007 on-road emission standards for PM<sub>10</sub> and NO<sub>x</sub> (0.01 g/bhp-hr and 0.20 g/bhp-hr).

***All years:*** Trucks hauling materials such as debris or fill shall be fully covered while in operation off Port property.

This mitigation measure shall be met unless one of the following circumstances exists and the contractor is able to provide proof that any of these circumstances exists:

- A piece of specialized equipment is unavailable in a controlled form, or within the required Tier level, within the state of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

***MM AQ-11: Special Precautions near Sensitive Sites***

*For construction activities that occur within 1,000 feet of sensitive receptors (defined as schools, playgrounds, daycares, and hospitals), the Port shall notify each of these sites in writing at least 30 days before construction activities begin.*

***MM AQ-12: General Mitigation Measure***

*For any of the above mitigation measures (MM AQ-1 through AQ-11), if a CARB-certified technology becomes available and is shown to be as good as or better in terms of emissions performance than the existing measure, the technology could replace the existing measure pending approval by the Port.*

**MM 4G-5: Discontinue construction activities during a Stage II Smog Alert**

**Rationale for Finding**

Changes or alterations in the form of mitigation measures have been incorporated into the project in the form of AQ-1 through AQ-12, which lessen significant construction emissions. Although reduced as a result of the mitigation measures, construction emissions remain significant and unavoidable. Table 2 presents the construction emissions and thresholds before and after mitigation.

**Table 2: Construction Emissions** (*bold numbers denote significant emissions*)

	EMISSIONS (POUNDS PER DAY)					
	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Phase I</b>						
Unmitigated Peak Daily Emissions	592	3,539	10,496	176	516	400
Mitigated Peak Daily Emissions*	515	4,298	7,815	114	393	274
SCAQMD Daily Significance Thresholds	75	550	100	150	150	55

\*Due to availability issues, not all mitigation measures were fully quantified. The Final SEIR however includes information on relative emissions reduction for all mitigation measures.

Note: Emission controls were implemented on construction equipment to lower emissions. NO<sub>x</sub> emission factors are higher in the unmitigated case than in the mitigated case, as would intuitively be expected. However, when emission controls are implemented to decrease NO emissions, an unequal air-to-fuel ratio results, which in turn means that CO emission factors, and emissions increase in the mitigated case, compared to the unmitigated case

While the mitigation measures presented in the Final SEIR reduce emissions, emissions would still exceed SCAQMD emissions for (VOC, CO, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>). Mitigation measures AQ-1 through AQ-12 represent feasible means to reduce air pollution impacts from proposed construction sources.

Emissions will largely come from diesel-powered construction equipment such as concrete mixers, trucks, bulldozers, and graders for tanks farm development and pipeline construction; pile drivers and tugboats wharf development; and cargo ships for crane delivery. As part of the Draft SEIS/SEIR, mitigation was developed aimed at reducing these emissions through accelerating fleet turnover to newer, cleaner equipment, adding retrofit devices and employing best management practices (BMPs).

In response to comments on the Draft SEIS/SEIR, changes were made to Mitigation Measures AQ-1 through AQ-12 in the Final SEIS/SEIR, to further reduce construction emissions impacts to the greatest feasible extent. These changes to AQ-1 through AQ-12 will further reduce construction emissions beyond the mitigation levels identified in the Draft SEIS/SEIR.

No additional mitigation beyond that identified in the FEIR is feasible at this time, however, because of limitations on the availability of required technology in the existing construction fleet. Most construction contractors do not own their own equipment because of the costs associated with owning, maintaining and storing large equipment, but instead rent equipment. The pool of rental construction equipment featuring the most stringent available emissions control technologies is limited, however, and construction contractors cannot be sure of being able to rent that equipment.

For example, new Tier 3 standard off-road engines first became commercially available in 2006/2007 for the prevalent horsepower categories proposed for Project construction. Since most of the construction would occur within a few years after this time, and construction equipment rental firms have not yet had time to entirely update their fleets, not all Project construction equipment is expected to comply with the most stringent emissions control standards. Hence, MM AQ-3 proposes a feasible goal that requires non-marine construction equipment on the average to comply with Tier 2-equivalent standards until 2012. MM AQ-3 does require all of the equipment to comply with the Tier 3 standards from 2012 to 2014 and Tier 4 in 2015 and onwards, consistent with the Port's Sustainable Construction Guidelines. The discussion below includes more details on suggested changes to mitigation measures raised in comments on the Draft SEIS/SEIR.

#### Construction Trucks and Equipment:

Comments on the Draft SEIS/SEIR from US Environmental Protection Agency (USEPA-10), and South Coast Air Quality Management District SCQAMD (SCAQMD-13 through 18) suggested accelerating construction equipment and truck fleet turnover. For example, comments called for construction equipment to meet USEPA Tier 4 standards and on road trucks to meet the lowest certified NO<sub>x</sub> emission levels. Based on comment received, the Final SEIR has modified MMAQ-3 to require stricter emission standards. In addition, the Project construction procurement process will include a selection system that requires bidders to use the cleanest available construction equipment and the mitigation measures will result in further emission reductions than assumed in the Draft SEIS/SEIR. Similarly, MM AQ-10 was also amended to include further requirements for on-road trucks in 2010. The measure will require EPA 2007 compliant trucks in 2012 consistent with SCAQMD (18) request and the Port's Sustainable Construction Guidelines.

Another comment (SCQAMD-24) suggesting changing MMAQ-53 to limit construction trucks idling to 5 minutes. In response to this comment, MM AQ-5 was amended in the Final SEIS/SEIR to restrict idling of heavy duty trucks to a maximum of 5-minutes when not in use. SCAQMD also requested adding a number of best management practices to MM AQ-5 and clarifying language in MM AQ-6. Both MM AQ-5 and MM AQ-6 were amended as suggested.

Comments from the Northwest San Pedro Neighborhood Council (NWSPHC-12) requested that the construction mitigation measures be amended to use electric or alternative fuel-powered equipment. It is infeasible at this time to require alternative fuels or electric power for construction equipment, due to lack of availability. In consideration of this comment, the Port queried a number of construction contractors and determined that none of them currently use alternative fuels or electric powered on or off-road construction equipment, besides the use of electric clamshell dredgers (the proposed Project however, does not include use of a clamshell dredger). In addition, biodiesel use at the Port is not being heavily pursued due to reported increases in NO<sub>x</sub> emissions. Construction equipment using biodiesel are not expected to meet the percent NO<sub>x</sub> reduction assumed in the SEIS/SEIR. As discussed on page 3.2-3, while the South Coast Air Basin has been in attainment for NO<sub>2</sub> since 1991, the region is now considered a maintenance area for NO<sub>2</sub> and local air agencies are pursuing further reductions in NO<sub>x</sub> emissions to offset regional increases in population.

**Impact AQ-2: Project construction would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance**

A dispersion modeling analysis was performed to estimate the ambient impact of construction emissions from the proposed Project. The analysis focused on the peak day of Phase 1 construction activities, as Construction Phase II activities would be concurrent with the initial operation of the proposed Project, Construction Phase II impacts are considered under the Operations phase. Without mitigation, the proposed Project's Phase 1 construction emissions would produce impacts that would exceed the SCAQMD 1-hour NO<sub>2</sub> and 24-hour PM<sub>10</sub>/PM<sub>2.5</sub> ambient thresholds. Therefore, these represent significant air quality impacts under CEQA.

## **Finding**

Implementation of Mitigation Measures AQ-1 through AQ-12 and MM4G-5 would reduce ambient pollutant impacts from Phase 1 construction. Implementation of these measures would substantially lessen emissions from criteria pollutants associated with construction of the proposed Project, as listed in Table 3, below. Therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. However, with mitigation, the Project Phase 1 construction emissions would produce impacts that would exceed the SCAQMD 1-hour NO<sub>2</sub> and 24-hour PM<sub>10</sub>/PM<sub>2.5</sub> ambient thresholds. As a result, Project residual impacts would remain significant for 1-hour NO<sub>2</sub> and 24-hour PM<sub>10</sub>/PM<sub>2.5</sub> under CEQA.

### ***MM AQ-1: Ridesharing or Shuttle Service***

*Ridesharing or shuttle service programs shall be provided for construction workers. Ridesharing or shuttle service programs would provide emissions benefit by reducing vehicle traffic related to the construction workforce.*

### ***MM AQ-2: Staging Areas and Parking Lots***

*On-site construction equipment staging areas and construction worker parking lots shall be located on either paved surfaces, or unpaved surfaces covered by gravel or subjected to soil stabilization treatments. The staging areas and worker parking lots shall be located as close as possible to public access routes. Access to public roadways from the staging areas and parking lots shall be controlled in order to minimize idling of Project construction equipment.*

### ***MM AQ-3: Construction Equipment Standards***

*Prior to and including December 31, 2011: All on-site mobile diesel-powered construction equipment greater than 50 hp, except derrick barges and marine vessels shall meet the Tier 2 emission standards as defined in the USEPA Non-Road Diesel Engine Rule (USEPA 1998). In addition, all construction equipment greater than 50 hp shall be retrofitted with a CARB-certified Level 3 diesel emissions control device.*

*From January 1, 2012 through December 31, 2014: All off-road diesel-powered construction equipment greater than 50 hp shall meet Tier-3 emission off-road emission standards, at a minimum and shall be retrofitted with a CARB certified Level 3 diesel emissions control device.*

*From January 1, 2015 on: All off-road diesel-powered construction equipment greater than 50 hp shall meet Tier-4 emission off-road emission standards, at a minimum and shall be retrofitted with a CARB certified Level 3 diesel emissions control device.*

This mitigation measure shall be met, unless one of the following circumstances exists and the contractor is able to provide proof that any of these circumstances exists



- A piece of specialized equipment is unavailable in a controlled form, or within the required Tier level, within the state of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

***MM AQ-4: Electricity Use***

*Electricity supplied by a public utility shall be used where available on the tank farm and pier construction sites in lieu of temporary diesel or gasoline-powered generators. The use of utility power would have a beneficial impact on local air quality as compared to temporary diesel or gasoline-powered generators.*

***MM AQ-5: Best Management Practices (BMPs)***

*The following types of measures are required on construction equipment (including on-road trucks):*

- 1. Use of diesel oxidation catalysts and catalyzed diesel particulate traps*
- 2. Maintain equipment according to manufacturers' specifications*
- 3. Restrict idling of construction equipment and on-road heavy-duty trucks to a maximum of 5 minutes when not in use*
- 4. Install high-pressure fuel injectors on construction equipment vehicles*
- 5. Maintain a minimum buffer zone of 300 meters between truck traffic and sensitive receptors*
- 6. Improve traffic flow by signal synchronization*
- 7. Enforce truck parking restrictions*
- 8. Provide on-site services to minimize truck traffic in or near residential areas, including, but not limited to, the following services: meal or cafeteria services, automated teller machines, etc.*
- 9. Re-route construction trucks away from congested streets or sensitive receptor areas*
- 10. Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site.*

*LAHD shall implement a process by which to select additional BMPs to further reduce air emissions during construction. The LAHD shall determine the BMPs once the contractor identifies and secures a final equipment list.*

**MM AQ-6: Additional Fugitive Dust Controls**

*The construction contractor shall reduce fugitive dust emissions by 90 percent from uncontrolled levels. The Project construction contractor shall specify dust-control methods that will achieve this control level in a SCAQMD Rule 403 dust control plan. Their duties shall include holiday and weekend periods when work may not be in progress. Measures to reduce fugitive dust include, but are not limited to, the following:*

- *Active grading sites shall be watered one additional time per day beyond that required by Rule 403.*
- *Contractors shall apply approved non-toxic chemical soil stabilizers according to manufacturer's specifications to all inactive construction areas or replace groundcover in disturbed areas (previously graded areas inactive for ten days or more).*
- *Construction contractors shall provide temporary wind fencing around sites being graded or cleared.*
- *Trucks hauling dirt, sand, or gravel shall be covered in accordance with Section 23114 of the California Vehicle Code.*
- *Construction contractors shall install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off tires of vehicles and any equipment leaving the construction site.*
- *Pave road and road shoulders.*
- *Require the use of clean-fueled sweepers pursuant to SCAQMD Rule 1186 and Rule 1186.1 certified street sweepers. Sweep streets at the end of each day if visible soil is carried onto paved roads on-site or roads adjacent to the site to reduce fugitive dust emissions.*
- *Appoint a construction relations officer to act as a community liaison concerning on-site construction activity including resolution of issues related to PM<sub>10</sub> generation.*
- *Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.*
- *Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow.*
- *Schedule construction activities that affect traffic flow on the arterial system to off-peak hours to the extent practicable.*
- *Require the use of electrified truck spaces for all truck parking or queuing areas.*

**MM AQ-7: Expanded VSR Program**

*All ships and barges used primarily to deliver construction-related materials to a LAHD-contractor construction site shall comply with the expanded Vessel Speed Reduction (VSR) program of 12 knots from 40 nautical miles (nm) from Point Fermin to the Precautionary Area.*

**MM AQ-8: Low-Sulfur Fuel for Construction Delivery Vessels**

*All ships and barges used primarily to deliver construction-related materials to a LAHD-contractor construction site shall use low-sulfur fuel (maximum sulfur content of 0.2 percent) in main engines, auxiliary engines, and boilers within 40 nm of Point Fermin.*

***MM AQ-9: Engine Standards for Harbor Craft Used in Construction***

*Prior to December 31, 2010, all harbor craft with C1 or C2 marine engines must achieve a minimum emission reduction equivalent to a U.S. Environmental Protection Agency (USEPA) Tier-2 2004 level off-road marine engine. From January 1, 2011 on, all harbor craft with C1 or C2 marine engines must utilize a U.S. USEPA Tier-3 engine, or cleaner.*

This mitigation measure shall be met unless one of the following circumstances exists and the contractor is able to provide proof that any of these circumstances exists:

- A piece of specialized equipment is unavailable in a controlled form, or within the required Tier level, within the state of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

***MM AQ-10: Fleet Modernization for On-Road Trucks***

***Prior to and including December 31, 2011:*** All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used on-site or to transport materials to and from the site shall comply with USEPA 2004 on road emission standards for PM<sub>10</sub> and NO<sub>x</sub> (0.10 g/bhp-hr PM<sub>10</sub> and 2.0 g/bhp-hr NO<sub>x</sub>).

***From January 1, 2012 on:*** All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used at the Port of Los Angeles shall comply with EPA 2007 on-road emission standards for PM<sub>10</sub> and NO<sub>x</sub> (0.01 g/bhp-hr and 0.20 g/bhp-hr).

***All years:*** Trucks hauling materials such as debris or fill shall be fully covered while in operation off Port property.

This mitigation measure shall be met unless one of the following circumstances exists and the contractor is able to provide proof that any of these circumstances exists:

- A piece of specialized equipment is unavailable in a controlled form, or within the required Tier level, within the state of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to

replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

**MM AQ-11: Special Precautions near Sensitive Sites**

*For construction activities that occur within 1,000 feet of sensitive receptors (defined as schools, playgrounds, daycares, and hospitals), the Port shall notify each of these sites in writing at least 30 days before construction activities begin.*

**MM AQ-12: General Mitigation Measure**

*For any of the above mitigation measures (MM AQ-1 through AQ-11), if a CARB-certified technology becomes available and is shown to be as good as or better in terms of emissions performance than the existing measure, the technology could replace the existing measure pending approval by the Port.*

**MM 4G-5: Discontinue construction activities during a Stage II Smog**

**Rationale for Finding**

Changes or alterations in the form of mitigation measures have been incorporated into the project in the form of AQ-1 through AQ-12 and MM4G-5 which substantially lessen significant construction emissions, as shown in Table 3. Although reduced as a result of the mitigation measures, construction emissions remain significant and unavoidable.

**Table 3 Maximum Offsite Ambient Concentrations**

**Table 3.1 Maximum Offsite Ambient Concentrations – Proposed Project Construction without Mitigation<sup>1,2</sup>**

<i>Pollutant</i>	<i>Averaging Period</i>	<i>Maximum Impact (µg/m<sup>3</sup>)</i>	<i>Background Concentration (µg/m<sup>3</sup>)</i>	<i>Total Impact (µg/m<sup>3</sup>)</i>	<i>SCAQMD Thresholds of Significance</i>	<i>Exceeds Threshold? (Y/N)</i>
<i>Phase I</i>						
NO <sub>2</sub>	1-hour	20,064.8	263.2	20,328.0	338	Y
	Annual	212.1	54.5	266.6	56	Y
CO	1-hour	8,891.5	6,670	15,561.5	23,000	N
	8-hour	1,711.6	5,405	7,116.6	10,000	N
PM <sub>10</sub>	24-hour	118.4	74	---	10.4	Y
	Annual	13.7	35.9	---	20	N
PM <sub>2.5</sub>	24-hour	103.4	115.2	---	10.4	Y

*Notes:*

1. The NO<sub>2</sub> and CO thresholds are absolute thresholds; the maximum predicted impact from construction activities is added to the background concentration for the Project vicinity and compared to the threshold.
2. The PM<sub>10</sub> and PM<sub>2.5</sub> threshold is an incremental threshold; the maximum predicted impact from construction activities (without adding the background concentration) is compared to the threshold.

**Table 3.2 Maximum Offsite Ambient Concentrations – Proposed Project Construction with Mitigation<sup>1,2</sup>**

<i>Pollutant</i>	<i>Averaging Period</i>	<i>Maximum Impact (µg/m<sup>3</sup>)</i>	<i>Background Concentration (µg/m<sup>3</sup>)</i>	<i>Total Impact (µg/m<sup>3</sup>)</i>	<i>SCAQMD Thresholds of Significance</i>	<i>Exceeds Threshold? (Y/N)</i>
<i>Phase I</i>						
NO <sub>2</sub>	1-hour	14,735.0	263.2	14,998.2	338	Y
	Annual	156.2	54.5	210.7	56	Y
CO	1-hour	11,021.4	6,670	17,691.4	23,000	N
	8-hour	2,121.2	5,405	7,526.2	10,000	N
PM <sub>10</sub>	24-hour	64.5	74	---	10.4	Y
	Annual	7.6	35.9	---	20	N
PM <sub>2.5</sub>	24-hour	57	115.2	---	10.4	Y
<i>Notes:</i> <ol style="list-style-type: none"> <li>The NO<sub>2</sub> and CO thresholds are absolute thresholds; the maximum predicted impact from construction activities is added to the background concentration for the Project vicinity and compared to the threshold.</li> <li>The PM<sub>10</sub> and PM<sub>2.5</sub> threshold is an incremental threshold; the maximum predicted impact from construction activities (without adding the background concentration) is compared to the threshold.</li> </ol>						

While the mitigation measures presented in the SEIS/SEIR reduce emissions, emissions would still exceed SCAQMD one-hour NO<sub>2</sub>, and 24 hour ambient PM<sub>10</sub>, and PM<sub>2.5</sub> emissions. The revisions to mitigation measures include further implementation of construction equipment and truck requirements. While construction is anticipated to finish prior to 2011, the mitigation measure includes further requirements if construction is delayed beyond 2011. These measures are consistent with the Port's Sustainable Construction Guidelines. However, because construction is anticipated to be complete by 2011, the quantitative analysis included in this Section only includes emission reductions from measures required prior to 2011, consistent with the Draft SEIS/SEIR. Therefore, there are no changes to the daily construction emissions. The proposed Project would exceed the daily construction emission thresholds for VOC, CO, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>.

In response to comments on the Draft SEIS/SEIR, changes were made to Mitigation Measures AQ-1 through AQ-12 in the Final SEIS/SEIR, to further reduce construction emissions impacts to the greatest feasible extent. These changes to AQ-1 through AQ-12 will further reduce construction emissions beyond the mitigation levels identified in the Draft SEIS/SEIR.

No additional mitigation beyond that identified in the FEIR is feasible at this time, however, because of limitations on the availability of required technology in the existing construction fleet. Most construction contractors do not own their own equipment because of the costs associated with owning, maintaining and storing large equipment, but instead rent equipment. The pool of rental construction equipment featuring the most stringent available emissions control technologies is limited, however, and construction contractors cannot be sure of being able to rent that equipment. For example, new Tier 3 standard off-road engines first became commercially available in 2006/2007 for the prevalent horsepower categories proposed for Project construction. Since most of the construction would occur within a few years after this time, and construction equipment rental firms have not yet had time to entirely update their fleets, not all Project construction equipment is expected to comply with the most stringent emissions control standards. Hence, MM AQ-3 proposes a feasible goal that requires non-marine construction equipment on the average to comply with Tier 2-equivalent standards until 2012. MM AQ-3 does require all of the equipment to comply with the Tier 3 standards from 2012 to 2014 and Tier 4 in 2015 and onwards, consistent with the Port's Sustainable Construction Guidelines. The discussion below includes more details on suggested changes to mitigation measures raised in comments on the Draft SEIS/SEIR.

Construction Trucks and Equipment:

Comments on the Draft SEIS/SEIR from US Environmental Protection Agency (USEPA-10), South Coast Air Quality Management District SCQAMD (SCAQMD-13 through 18) and Northwest San Pedro Neighborhood Council (NWSPNC) suggested accelerating construction equipment and truck fleet turnover even further. For example, comments called for construction equipment to meet USEPA Tier 4 standards and on road trucks to meet the lowest certified NO<sub>x</sub> emission levels. Based on comment received, the Final SEIR has modified MMAQ-3 to require stricter emission standards. In addition, the Project construction procurement process will include a selection system that requires bidders to use the cleanest available construction equipment and the mitigation measures will result in further emission reductions than assumed in the Draft SEIS/SEIR. Similarly, MM AQ-10 was also amended to include further requirements for on-road trucks in 2010. The measure will require EPA 2007 compliant trucks in 2012 consistent with SCAQMD (18) request and the Port's Sustainable Construction Guidelines.

Another comment (SCQAMD-24) suggesting changing MMAQ-53 to limit construction trucks idling to 5 minutes. In response to this comment, MM AQ-5 was amended to restrict idling of heavy duty trucks to a maximum of 5-minutes when not in use. SCAQMD also requested adding a number of best management practices to MM AQ-5 and clarifying language in MM AQ-6. Both MM AQ-5 and MM AQ-6 were amended as suggested.

Comments from the Northwest San Pedro Neighborhood Council (NWSPHC-12) requested that the construction mitigation measures be amended to use electric or alternative fuel-powered equipment. It is infeasible at this time to require alternative fuels or electric power for construction equipment, due to lack of availability. In consideration of this comment, the Port queried a number of construction contractors and determined that none of them currently use alternative fuels or electric powered on or off-road construction equipment, besides the use of electric clamshell dredgers (the proposed Project however, does not include use of a clamshell dredger). In addition, biodiesel use at the Port is not being heavily pursued due to reported increases in NO<sub>x</sub> emissions. Construction equipment using biodiesel are not expected to meet the percent NO<sub>x</sub> reduction assumed in the SEIS/SEIR. As discussed on page 3.2-3, while the South Coast Air Basin has been in attainment for NO<sub>2</sub> since 1991, the region is now considered a maintenance area for NO<sub>2</sub> and local air agencies are pursuing further reductions in NO<sub>x</sub> emissions to offset regional increases in population.

**Impact AQ-3: The proposed Project would result in operational emissions that exceed 10 tons per year of VOCs or a SCAQMD threshold of significance**

The proposed Project would result in operational emissions that exceed 10 tons per year of VOCs and SCAQMD thresholds of significance. The main contributors to Project operational emissions include: (1) marine tankers, (2) off-loading oil and (3) vapors from tanks. Vessel sources produce the greatest percentage of total Project emissions and are largely not subject to agency-adopted requirements to meet lower emissions standards.

As discussed in the SEIS/SEIR, the net change in average daily operational emissions between the unmitigated proposed Project and CEQA Baseline would exceed the SCAQMD daily thresholds for all years and for all thresholds. These exceedances of the SCAQMD emission thresholds represent significant levels of emissions produced during the operation of the proposed Project under CEQA.

**Finding**

Mitigation measures AQ-13 through AQ-21 have been developed to reduce operational emissions. Implementation of these measures would substantially lessen emissions from criteria pollutants associated with operation of the proposed Project, as listed in Table 4, below. Therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the SEIS/SEIR. However, after mitigation, the maximum mitigated Project operations would still exceed the CEQA significant thresholds for all pollutants.

***MM AQ-13: Expanded Vessel Speed Reduction (VSR) Program***

*All ships calling (100%) at Berth 408 shall comply with the expanded VSR Program of 12 knots between 40 nm from Point Fermin and the Precautionary Area from Year 1 of operation.*

***MM AQ-14: Low Sulfur Fuel Use in Main Engines, Auxiliary Engines and Boilers***

*All ships (100%) calling at Berth 408 shall use 0.2% low sulfur fuel within 40 nm of Point Fermin on their outbound leg and while hotelling at the Project, beginning on day one of operation. Vessels calling at Berth 408 shall also use 0.2% low sulfur fuel within 40 nm of Point Fermin on their inbound leg, except where circumstances (such as ships with a mono-tank system or ships originating from a Port where low sulfur fuel is not available) make such use infeasible on the inbound leg. Regardless, the applicant shall adhere to the following annual phase-in schedule which identifies the minimum allowable annual percentage of vessels in the fleet calling at Berth 408 which shall use 0.2% low sulfur fuel within 40 nm of Point Fermin on their inbound leg:*

**PLAMT Fuel Switch for Main Engines, Auxiliary Engines, and Boilers**

Year	Main Engines/Auxiliary Engines/Boilers					
	Inbound			Hoteling and Outbound		
	HFO	0.50%	0.20%	HFO	0.50%	0.20%
1	0	100	0	0	0	100
2	0	100	0	0	0	100
3	0	100	0	0	0	100
4	0	80	20	0	0	100
5	0	50	50	0	0	100
6	0	50	50	0	0	100
7-30	0	10	90	0	0	100

*In addition, all callers carrying 0.2% low sulfur shall use 0.2% low sulfur within 40 nm of Point Fermin both on the inbound and outbound leg. Six months prior to operation of Berth 408 the applicant shall lead the effort, with Port support, in notifying all fuel suppliers/shippers of the low sulfur fuel requirements. This notification shall be achieved through publication of a notice in Bunker World (or other similar fuel supply trade publication) and by notification to all Berth 408 customers.*

***MM-AQ 15: Alternative Maritime Power (AMP)***

*By the end of year 2 of operation, all ships capable of utilizing AMP and all frequent callers (2 or more a year) shall use AMP at the facility. At a minimum, ships calling at the Berth 408 facility shall use AMP while hoteling at the Port in the following minimum percentages:*

- *By end of year 2 of operation – 6 (4%) vessel calls*
- *By end of year 3 of operation – 10% of annual vessel calls*
- *By end of year 5 of operation – 15% of annual vessel calls*

- *By end of year 10 of operation – 50% of annual vessel calls*
- *By end of year 16 of operation –80% of annual vessel calls.*

***MM AQ-16: Slide Valves***

*Ships calling at Berth 408 shall be equipped with slide valves or a slide valve equivalent (an engine retrofit device designed to reduce the sac volume in fuel valves of main engines in Category 3 marine engines) to the maximum extent possible.*

***MM AQ-17: Parking Configuration***

*Configure parking during operation to minimize traffic interference. Because the effectiveness of this measure cannot be predicted, it is not quantified in this study. This measure incorporates the requirements of MM 4G-14 from the 1992 Deep Draft FEIS/FEIR.*

***MM AQ-18: New Vessel Builds***

*The purchaser shall confer with the ship designer and engine manufacture to determine the feasibility of incorporating all emission reduction technology and/or design options and when ordering new ships bound for the Port of Los Angeles. Such technology shall be designed to reduce criteria pollutant emissions (NO<sub>x</sub>, SO<sub>x</sub>, and PM) and GHG emission (CO, CH<sub>4</sub>, O<sub>3</sub>, and CFCs). Design considerations and technology shall include, but is not limited to:*

- 1. Selective Catalytic Reduction Technology*
- 2. Exhaust Gas Recirculation*
- 3. In-line fuel emulsification technology*
- 4. Diesel Particulate Filters (DPFs) or exhaust scrubbers*
- 5. Common Rail*
- 6. Low NO<sub>x</sub> Burners for Boilers*
- 7. Implement fuel economy standards by vessel class and engine*
- 8. Diesel-electric pod propulsion systems*

***New/Alternative Technology***

The following measures are lease measures that will be included in the lease for Berth 400 due to projected future emissions levels. The measures do not meet all of the criteria for CEQA or NEPA mitigation measures but are considered important lease measures to reduce future emissions. This lease obligation is distinct from the requirement of further CEQA or NEPA mitigation measures to address impacts of potential subsequent discretionary Project approvals.

***MM AQ-19: Equivalent Measures***

*General Mitigation Measure. For any of the above mitigation measures (MM AQ-13 through AQ-18), if any kind of technology becomes available and is shown to be as good or better in terms of emissions reduction performance than the existing measure, the technology could replace the existing measure pending approval by the Port of Los Angeles. The technology's*



*emissions reductions must be verifiable through USEPA, CARB, or other reputable certification and/or demonstration studies to the Port's satisfaction.*

*This measure is intended to provide PLAMT the flexibility to achieve required emissions mitigation using alternative methods that may not be apparent at present. The applicant may use an AMP alternative emission reduction technology so long as the alternative technology will achieve emission reductions equivalent to the emission reductions that would have been achieved through the use of AMP.*

**MM AQ-20: Periodic Review of New Technology and Regulations**

*The Port shall require the tenant to review, in terms of feasibility, any Port-identified or other new emissions-reduction technology, and report to the Port. Such technology feasibility reviews shall take place at the time of the Port's consideration of any lease amendment or facility modification. If the technology is determined by the Port to be feasible in terms of cost, technical and operational feasibility, the tenant shall work with the Port to implement such technology at sole cost to the tenant.*

*Potential technologies that may further reduce emission and/or result in cost-savings benefits for the tenant may be identified through future work on the CAAP. Over the course of the lease, the tenant and the Port shall work together to identify potential new technology. Such technology shall be studied for feasibility, in terms of cost, technical and operational feasibility. The effectiveness of this measure depends on the advancement of new technologies and the outcome of future feasibility or pilot studies. If the tenant requests future Project changes that would require environmental clearance and a lease amendment, future CAAP mitigation measures would be incorporated into the new lease at that time.*

*As partial consideration for the Port's agreement to issue the permit to the tenant, tenant shall implement not less frequently than once every 7 years following the effective date of the permit, new air quality technological advancements, subject to the parties' mutual agreement on operational feasibility and cost sharing which shall not be unreasonably withheld.*

*In addition, the Port shall require the tenant to evaluate the application of a AMECs or similar stack control technology within 5 years of project approval and implement such technology, pending separate CEQA analysis, if found to be feasible.*

**MM AQ-21: Throughput Tracking**

*If the project exceeds project throughput assumptions/projections anticipated through the years 2015, 2025, or 2040, staff shall evaluate the effects of this on the emission sources (ship calls, crude oil throughput) relative to the SEIS/SEIR. If it is determined that these emission sources exceed SEIS/SEIR assumptions, staff would evaluate actual air emissions for comparison with the SEIS/SEIR and if the criteria pollutant emissions exceed those in the SEIS/SEIR, then new or additional mitigations would be applied through MM AQ-20.*

**Rationale for Finding**

Changes or alterations in the form of mitigation measures have been incorporated into the project in the form of AQ-13 through AQ-21 which lessen the significant effects of operation. The mitigation identified to reduce emissions comes primarily from the CAAP. The CAAP represented a

collaborative effort between the Ports of Los Angeles and Long Beach, SCAQMD, CARB, and USEPA to identify mechanisms to reduced emissions at both Ports. Through this collaborative effort, exhaustive research was done on available emissions reduction technology and measures. This SEIS/SEIR complies with CAAP. In addition, the SEIS/SEIR also considered mitigation developed as part of the former proposed No Net Increase (NNI) Plan and an analysis of applicable mitigation can be found in Appendix B of the SEIS/SEIR. Nevertheless, although reduced as a result of the mitigation measures, emissions remain significant and unavoidable as shown in Table 4 below for peak day emissions.

**Table 4: Peak Daily Operational Emissions** (*bold numbers denote significant emissions*)

Project Scenario/Activity	EMISSIONS (POUNDS PER DAY)					
	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Project Year 2010</b>						
Proposed Project	<b>418</b>	<b>771</b>	<b>7,776</b>	<b>5,199</b>	<b>614</b>	<b>636</b>
Mitigated Proposed Project	<b>382</b>	<b>687</b>	<b>6,376</b>	<b>926</b>	<b>152</b>	<b>183</b>
CEQA Baseline	0	0	0	0	0	0
Net Emissions No Mitigation	<b>418</b>	<b>771</b>	<b>7,776</b>	<b>5,199</b>	<b>614</b>	<b>636</b>
Net Emissions With Mitigation	<b>382</b>	<b>687</b>	<b>6,376</b>	<b>926</b>	<b>152</b>	<b>183</b>
SCAQMD Daily Significance Thresholds	55	550	55	150	150	55
<b>Project Year 2015</b>						
Proposed Project	<b>418</b>	<b>771</b>	<b>7,776</b>	<b>5,199</b>	<b>614</b>	<b>636</b>
Mitigated Proposed Project	<b>379</b>	<b>686</b>	<b>6,130</b>	<b>779</b>	<b>143</b>	<b>172</b>
CEQA Baseline 2003	0	0	0	0	0	0
Net Emissions No Mitigation	<b>418</b>	<b>771</b>	<b>7,776</b>	<b>5,199</b>	<b>614</b>	<b>636</b>
Net Emissions With Mitigation	<b>379</b>	<b>686</b>	<b>6,130</b>	<b>779</b>	<b>143</b>	<b>172</b>
SCAQMD Daily Significance Thresholds	55	550	55	150	150	55
<b>Project Year 2025</b>						
Proposed Project	<b>418</b>	<b>771</b>	<b>7,776</b>	<b>5,199</b>	<b>614</b>	<b>636</b>
Mitigated Proposed Project	<b>368</b>	<b>660</b>	<b>5,685</b>	<b>655</b>	<b>135</b>	<b>156</b>
CEQA Baseline 2003	0	0	0	0	0	0
Net Emissions No Mitigation	<b>418</b>	<b>771</b>	<b>7,776</b>	<b>5,199</b>	<b>614</b>	<b>636</b>
Net Emissions With Mitigation	<b>368</b>	<b>660</b>	<b>5,685</b>	<b>655</b>	<b>135</b>	<b>156</b>
SCAQMD Daily Significance Thresholds	55	550	55	150	150	55
<b>Project Year 2040</b>						
Proposed Project	<b>418</b>	<b>771</b>	<b>7,776</b>	<b>5,199</b>	<b>614</b>	<b>636</b>
Mitigated Proposed Project	<b>358</b>	<b>630</b>	<b>5,257</b>	<b>631</b>	<b>126</b>	<b>144</b>
CEQA Baseline 2003	0	0	0	0	0	0
Net Emissions No Mitigation	<b>418</b>	<b>771</b>	<b>7,776</b>	<b>5,199</b>	<b>614</b>	<b>636</b>
Net Emissions With Mitigation	<b>358</b>	<b>630</b>	<b>5,257</b>	<b>631</b>	<b>126</b>	<b>144</b>
SCAQMD Daily Significance Thresholds	55	550	55	150	150	55

The Final SEIR has accelerated implementation and/or modified of some mitigation measures proposed in the Draft SEIS/SEIR, namely MM AQ-14 and MM AQ-15, to further reduce operational emissions. The revisions to mitigation measures include revisions to MM AQ-14 and MM AQ-15. In regards to AMP, the new requirements call for all frequent callers to use AMP at the facility by the end of year two of operations thereby increasing AMP participation for frequent callers beyond the Draft SEIS/SEIR requirements. In regards to low sulfur fuel, the new requirement calls for low sulfur fuel use in 100% of all ships from day one unless there are either technical or operational feasibility issues, thereby increasing low sulfur fuel use for a portion of the ships beyond the Draft SEIS/SEIR

requirements. The net effect of the revised assumptions/mitigation measures would reduce mitigated operational emissions compared to the uncorrected values. However, because the new requirements capture a yet to be determined number of ships, the revised mitigated operational emissions are assumed to still exceed the CEQA and NEPA emissions thresholds. Therefore, the revisions to operational assumptions/mitigation measures used in the Draft SEIS/SEIR that are included in the Final SEIS/SEIR were not evaluated for precise quantification of their potential to reduce emissions from proposed operational activities.

Mitigation measures AQ-13 through AQ-21 represent feasible means to reduce air pollution impacts from proposed operational sources. The discussion below includes more details on suggested changes to mitigation measures raised in comments on the Draft SEIS/SEIR.

### Ocean Going Vessels

Comments were received on-ocean going vessel mitigations from USEPA (USEPA 9 and 11), SCAQMD 20, 21, and 22), the PCAC Air Quality Subcommittee (PCAC-AQ-3, 5, and 6), the PCAC Past EIR Subcommittee (PCAC-EIR-6), Central San Pedro Neighborhood Council (CSPNC 8-11), Kathleen Woodfield and John Miller (KW/JM-10), Melanie Jones and Peter Warren (MJ/PW 14-15), Ultramar (Ultramar 10 and 14) and the Communities for a Safe Environment (CSE-46 and 48). Comments requested the following: (1) that the phase-in schedule for AMP, low sulfur fuel, and slide valve use be accelerated to further reduce emissions from ocean going vessels and (2) that ships use 0.1% low sulfur fuel instead of 0.2% low sulfur fuel. In addition, there were a number of suggestions to use Alternative Maritime Emission Control System (AMECS) instead of or in addition to AMP.

### *Alternative Maritime Power (AMP) and Slide Valves*

MM AQ-15 calls for phasing in AMP between year 2 and year 16 of operation. MM AQ-15 was amended in the Final SEIR to increase AMP participation by frequent callers (2 or more calls a year) starting within two years of operations. The percentages required in MM AQ-15 represent the most aggressive feasible phase-in requirements for a project that accommodates calls by marine oil tankers. Both CARB and POLA have considered the applicability of AMP to tankers and concluded that tankers are not currently equipped to take advantage of AMP (CAPP, 2007). The CARB adopted an AMPing rule in 2007 that did not include tankers. It is currently considering other measures applicable to tankers but no regulation has been proposed. Likewise, the Clean Air Action Plan (CAAP) concluded that shore power is generally best suited for vessels that make multiple calls per year, require significant demand for power while at berth, and vessels that will continue to call at the same terminal for multiple years. In general, crude oil tankers do not fit within these categories. For tankers, the CAAP concluded that only crude tankers that have diesel-electric powered pumps were considered to be good candidates. The CAAP suggested alternative hotelling emissions reduction technologies for vessels that do not fit the model most suited to AMPing. Such technologies include shore-powered dockside electrical pumps for tankers to reduce on-board pumping loads. The proposed Project includes shore-powered pumps to be used on all vessel calls. This is in conformance with the feasibility findings of the CAAP.

Currently, only two tankers in the world crude oil tanker fleet are equipped for AMPing and they are both diesel-electric vessels (CARB, 2006). (The world crude oil tanker fleet includes approximately 1,200 vessels that could be expected to call at Berth 408 (Aframax or larger), and it is believed that there are only 9 crude oil tankers that are diesel-electric (Nestor Taura, per. comm). The two AMP-equipped tankers are owned by British Petroleum and have been modified for use at BP's Berth 121 at the Port of Long Beach but have yet to make a single call using AMP due to a series of technical issues. The BP tankers are not configured to be able to utilize the proposed AMP facility at Berth

408. Thus, to date, the successful application of AMPing technology to crude oil tankers has not been demonstrated despite several years of effort by BP and funding by the Port of Long Beach. This is an extremely aggressive schedule considering that no crude oil tanker likely to call at Berth 408 is equipped for cold ironing. Plains expects the shore power requirement in early years will be met by retrofitting a small number of vessels traveling between POLA and South America, which would make sense because they are most likely to be frequent callers.

There are currently no oil tankers equipped with slide valves (Nestor Taura, per. comm). Slide valves, while technically easier to install on ships than is AMP, will need to be designed specifically for oil tankers (this technology is currently in use only on container vessels). In addition, even after slide valve technology is adapted for tankers, the ships must be dry-docked to install such technology, which would necessitate a temporary and highly expensive removal from service. MM AQ-16 requires the applicant to use slide valves to the maximum extent feasible. Nevertheless, due to uncertainty about how much compliance with MM AQ-16 can feasibly be accomplished, the SEIS/SEIR does not assume any emissions reductions due to slide valves

As discussed in the SEIS/SEIR, subject to lease measures AQ-19 (Equivalent Measures) and AQ-20 (New Technology), another technology for emissions reduction may eventually be used as an alternative to AMP. One such technology is the Advanced Cleanup Technologies, Inc. (ACTI) new Advanced Maritime Emissions Control System (AMECS). The s AMECS system involves a bonnet, which for the maritime version would be fitted over a ship's exhaust stack, and uses a series of scrubber processes to remove harmful compounds. To facilitate its eventual implementation should AMECS be determined to be usable at Berth 408, the proposed Project includes construction of the support infrastructure for AMECS (i.e., a pile-supported platform and approach). More details about the AMECS, its evaluation for inclusion in the proposed Project, and its potential for eventual use at Berth 408 are provided in Section 1.2.4.2.1 of the Final SEIS/SEIR and MM AQ-15 and MM AQ-20 in Section 3.2. Installation of AMECS is not currently identified as a mitigation measure in the SEIS/SEIR, since it has not yet been determined feasible or effective. Mitigation of the effects of the proposed Project using AMECS would require separate environmental analysis if added in the future. In regards to AMECs, the following discussion was added to the Final SEIS/SEIR:

In the alternative, the Port may, upon application by the tenant, and subject to all applicable laws and regulations, permit the tenant to install and employ and Alternative Maritime Emission Control System (AMECS) system, either in combination with or in place of AMP as designated in the Port's permit, to satisfy the requirements of this mitigation measure; provided that the Port first finds, based on environmental review prepared pursuant to CEQA, all of the following:

- (1) that AMECS is a feasible mitigation measure;
- (2) that the Port and CARB have verified that use of AMECS, as permitted by the Port, would achieve emissions reductions equivalent to or better than those identified in this SEIS/SEIR as occurring under this mitigation measure through the use of AMP alone; and
- (3) that either
  - a. the use of AMECS, as permitted by the Port to achieve the purposes of this mitigation measure, would result in no new or substantially more severe significant adverse impact to the environment, or

- b. any new or substantially more severe adverse impact to the environment resulting from the use of AMECS as permitted by the Port to achieve the purposes of this mitigation measure would be mitigated to a less than significant level, or
- c. overriding considerations, as defined under CEQA, make appropriate the use of AMECS as permitted by the Port to achieve the purposes of this mitigation measure.

### *Low Sulfur Fuel*

MMAQ-11 calls for phasing-in use of 0.2% sulfur fuel between years 1 and 7 of operations. The Port received a number of comments on MMAQ-11 from SCAQMD, NRDC, the PCAC Air Quality Subcommittee, the PCAC Past EIR Subcommittee, CSPNC, CSE, and MJ/PW. The comments requested a shorter phase-in schedule and using 0.1% instead of 0.2% low sulfur fuel in order to reduce emissions from vessels while in transit. In response, the Port amended MM AQ-11's phase-in schedule to increase from year 1 for all ships. Ships with technical or operational feasibility would have longer to phase-in use of such fuel.

Use of 0.2% low sulfur fuel for some marine tankers is infeasible in the short term due to availability. Virtually all marine tankers carry distillate (at approximately 0.5% sulfur) for purposes of cleaning main engines of the Heavy Fuel Oil (HFO) when a vessel must be taken out of service for its five year survey and for the emergency generators (Nestor Taura, per. comm). However, 0.2% sulfur fuel may not be available at all ports of origin in the short term and therefore the use of 0.2% low sulfur fuel is being phased-in over time. The majority of tankers calling at Berth 408 in the short term are expected to originate in the oil producing regions of the Middle East, West Africa, or South America. Recent low-sulfur fuel availability studies completed by the California Air Resources Board (CARB) and the Port do not support a finding that 0.2% sulfur fuel is available worldwide and in particular at the ports where some project trips are expected to originate (POLA, 2008). Under MM AQ-14, vessels originating from ports with no 0.2% low sulfur fuel will come in on distillate and then load on 0.2% fuel into the distillate tank.

In regards to the request to mandate fuel with a fuel content of 0.1% instead of 0.2%, the Port has found that requiring 0.1% is infeasible due to availability issues. In order to allow for some margin of error and product contamination in the distribution system, when a shipping line orders 0.2% sulfur fuel, they are actually receiving a fuel with lower sulfur content of between 0.13% and 0.16%. Therefore, if the mitigation measure required 0.1% fuel, the fuel supplier would have to provide fuel at a lower than 0.1% content, which may not be currently possible at refineries. Additionally, 0.2% is consistent with the CAAP. In developing and approving the CAAP, the Ports of Los Angeles and Long Beach met and collaborated with agencies (including CARB, SCAQMD, and USEPA), environmental and community groups, and the shipping industry. As a result of this collaborative process, 0.2% sulfur fuel was found to be feasible from port-wide perspective.

### *Shore-side Pumps*

The vessel's pumps used to off-load crude represent another emission source. USEPA (9) specifically requested full replacement of the vessel's pumps with shore-side pumps. As noted in SEIS/SEIR Section 3.2, Section 3.2.4.3.2 Operations, full replacement of the vessel's pumps with shore-side pumps is not feasible due to the need for a hydraulic lift that would be required to pull the

crude oil from the holds of the vessels. This initial lift over the side of the vessel must still be provided by ship pumps.

USEPA, in comments on the Draft SEIS/SEIR, suggests that shoreside pumps with enough power could pull crude oil from the ship without using shipboard pumps and the boilers that power these pumps. This concept is infeasible due to the construction of crude carriers, the physics of fluid flow, crude oil vapor pressure and the concept of “suction lift” (Flowserve, 2002, Cameron Hydraulic Data Book: Section 1, “Hydraulic Principals”.)

At its most basic form, a crude carrier is a box of multiple compartments that floats in the water. When a crude carrier is full, the box sits very low with most of the box below water level and only a small part (freeboard) visible above the water. As the crude oil is removed from the crude carrier, the box rises with respect to the water because the crude carrier is lighter as there is less crude oil inside. Therefore, the position of the ship relative to the dock changes with the amount of crude oil in the crude carrier and with the tidal change in water level.

The depth of the crude carrier is in the range of 50 to 100 feet. If the crude were pulled from the compartments of the tank, some component of the crude oil would vaporize as it is lifted from the bottom of the ship to the deck of the ship (this effect is referred to as suction lift). Suction lift exists when the liquid supply level or suction source is below the pump centerline or impeller eye. Total suction lift is equal to the static lift (the depth of the ship’s hull) plus all frictional losses in the suction line including entrance loss (the end of the pipe where the crude oil enters the pipe.)

The maximum theoretical height that 68°F water can be lifted is 33 feet. Water has a vapor pressure of 0.339 pounds per square inch absolute (psia) at 68°F. Crude oil will have a vapor pressure of 4-8 psia. The maximum theoretical lift that can be achieved for crude oil is about 15-16 feet. This number does not include frictional losses within the piping. The crude oil cannot get to the deck (50 to 100 feet above the bottom of the ship.) In addition to needing to raise the crude oil to the upper levels of the ship, the crude oil is generally offloaded from the ship via a series of offloading marine transfer arms referred to as “loading arms”. Typically these loading arms, due the fact they are designed to accommodate a wide variety of ships (size, length, and width) along with the various tidal and wave actions that can be encountered, extend a considerable distance above the ships (at least another 30 to 40 feet), in effect increasing the amount of elevation that the crude oil would actually need to be lifted by an on-shore suction action. This situation is another major reason that the pumps on board the vessel are critical to the crude oil cargo offloading of the ship.

Crude carriers have pumps located at the bottom of the ship to avoid the suction lift effect. The pumps are connected to the various compartments in the ship that contain the crude oil. These pumps are virtually always driven by steam turbines that are supplied with steam generated by on-board boilers. The proposed design has the ship’s pumps pumping the crude oil out of the ship’s hull through the ship’s piping system, through loading arm structures and onto the shore. This will require relatively low power when compared to other marine terminals where the ship might pump 5 or 6 miles to the tank farm. The current design requires the ship’s pumps to pump through a 42-inch diameter pipeline approximately ½ mile to the electrically driven shore-side pumps which will add the pressure required to pump the oil the remaining distance to the tank farm.

#### *Proposed Lease Measures*

In addition to the comments on the above mitigation measures, a number of comments (PCAC-AQ 7 and 8, CSPNC-12 and 13, and NWSPNC-13 and 14) requested amending lease measures AQ-20 *Periodic Review of New Technology and Regulations* and AQ-21 *Throughput Tracking*. Currently,

AQ-21 requires throughput tracking in years 2015, 2025, or 2040. Those milestone years correspond to the years for which the SEIS/SEIS projects future throughput levels and resulting air quality impacts of the proposed Project. Under mitigation measure AQ-21, if throughput in any of the milestone years is higher than anticipated in the SEIS/SEIR, Port staff will evaluate Project air emissions and – if criteria pollutants exceed those projected for that year in the SEIS/SEIR, will apply new or additional mitigation if feasible. Comments on the Draft SEIS/SEIR requested more frequent (every five years) tracking. Because this lease measure is linked to years for which the SEIS/SEIR projects future throughput and air emissions levels, more frequent throughput tracking under mitigation measure AQ-21 is not practicable. Likewise, AQ-20, is a lease measure that would establish a process which by the Port and tenant would work together to review and install new feasible technology to reduce air emissions. Comments suggested requiring the Port and tenant to meet more frequently. As stated in the measure, the Port and the tenant are required to meet not less frequently than once every 7 years, but could meet more frequent if new technology is identified. Therefore, changes to the document are not required.

**Impact AQ-4: Proposed Project operations would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance**

The proposed Project operations would contribute to significant levels of 1-hour and annual NO<sub>2</sub> and 24-hour PM<sub>10</sub> and PM<sub>2.5</sub> concentrations under CEQA. Project operational emissions would result from the following sources: (1) marine tankers, (2) off-loading oil and (3) vapors from tanks. Vessel sources produce the greatest percentage of total Project emissions and are largely not subject to agency-adopted requirements to meet lower emissions standards. A dispersion modeling analysis was performed to estimate the ambient impact of operational emissions from the proposed Project. The analysis focused on project year 1, as Project operational sources would produce the highest amount of daily and annual emissions during this year within and adjacent to the Berths 136-147 terminal. In other words, this scenario would produce the highest Project ambient impacts within the Port region. Without mitigation, the proposed Project's year 1 operational emissions would produce impacts that would exceed the SCAQMD 1-hour and annual NO<sub>2</sub> ambient thresholds. Therefore, these represent significant air quality impacts under CEQA..

**Finding**

Mitigation measures AQ-13 through AQ-21 have been developed to reduce operational emissions. Implementation of these measures would substantially lessen emissions from criteria pollutants associated with operation of the proposed Project, as listed in Table 5, below. Therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the SEIS/SEIR. However, after mitigation, the maximum mitigated Project operations would still exceed the SCAQMD 1-hour and annual NO<sub>2</sub> ambient thresholds.

***MM AQ-13: Expanded Vessel Speed Reduction (VSR) Program***

*All ships calling (100%) at Berth 408 shall comply with the expanded VSR Program of 12 knots between 40 nm from Point Fermin and the Precautionary Area from Year 1 of operation.*

***MM AQ-14: Low Sulfur Fuel Use in Main Engines, Auxiliary Engines and Boilers***

*All ships (100%) calling at Berth 408 shall use 0.2% low sulfur fuel within 40 nm of Point Fermin on their outbound leg and while hotelling at the Project, beginning on day one of operation. Vessels calling at Berth 408 shall also use 0.2% low sulfur fuel within 40 nm of Point Fermin on*

their inbound leg, except where circumstances (such as ships with a mono-tank system or ships originating from a Port where low sulfur fuel is not available) make such use infeasible on the inbound leg. Regardless, the applicant shall adhere to the following annual phase-in schedule which identifies the minimum allowable annual percentage of vessels in the fleet calling at Berth 408 which shall use 0.2% low sulfur fuel within 40 nm of Point Fermin on their inbound leg:

**PLAMT Fuel Switch for Main Engines, Auxiliary Engines, and Boilers**

Year	Main Engines/Auxiliary Engines/Boilers					
	Inbound			Hoteling and Outbound		
	HFO	0.50%	0.20%	HFO	0.50%	0.20%
1	0	100	0	0	0	100
2	0	100	0	0	0	100
3	0	100	0	0	0	100
4	0	80	20	0	0	100
5	0	50	50	0	0	100
6	0	50	50	0	0	100
7-30	0	10	90	0	0	100

In addition, all callers carrying 0.2% low sulfur shall use 0.2% low sulfur within 40 nm of Point Fermin both on the inbound and outbound leg. Six months prior to operation of Berth 408 the applicant shall lead the effort, with Port support, in notifying all fuel suppliers/shippers of the low sulfur fuel requirements. This notification shall be achieved through publication of a notice in Bunker World (or other similar fuel supply trade publication) and by notification to all Berth 408 customers.

**MM-AQ 15: Alternative Maritime Power (AMP)**

By the end of year 2 of operation, all ships capable of utilizing AMP and all frequent callers (2 or more a year) shall use AMP at the facility. At a minimum, ships calling at the Berth 408 facility shall use AMP while hoteling at the Port in the following minimum percentages:

- By end of year 2 of operation – 6 (4%) vessel calls
- By end of year 3 of operation – 10% of annual vessel calls
- By end of year 5 of operation – 15% of annual vessel calls
- By end of year 10 of operation – 50% of annual vessel calls
- By end of year 16 of operation – 80% of annual vessel calls.

**MM AQ-16: Slide Valves**

Ships calling at Berth 408 shall be equipped with slide valves or a slide valve equivalent (an engine retrofit device designed to reduce the sac volume in fuel valves of main engines in Category 3 marine engines) to the maximum extent possible.

**MM AQ-17: Parking Configuration**

Configure parking during operation to minimize traffic interference. Because the effectiveness of this measure cannot be predicted, it is not quantified in this study. This measure incorporates the requirements of MM 4G-14 from the 1992 Deep Draft FEIS/FEIR.



***MM AQ-18: New Vessel Builds***

*The purchaser shall confer with the ship designer and engine manufacture to determine the feasibility of incorporating all emission reduction technology and/or design options and when ordering new ships bound for the Port of Los Angeles. Such technology shall be designed to reduce criteria pollutant emissions (NO<sub>x</sub>, SO<sub>x</sub>, and PM) and GHG emission (CO, CH<sub>4</sub>, O<sub>3</sub>, and CFCs). Design considerations and technology shall include, but is not limited to:*

- 1. Selective Catalytic Reduction Technology*
- 2. Exhaust Gas Recirculation*
- 3. In-line fuel emulsification technology*
- 4. Diesel Particulate Filters (DPFs) or exhaust scrubbers*
- 5. Common Rail*
- 6. Low NO<sub>x</sub> Burners for Boilers*
- 7. Implement fuel economy standards by vessel class and engine*
- 8. Diesel-electric pod propulsion systems*

**New/Alternative Technology**

The following measures are lease measures that will be included in the lease for Berth 400 due to projected future emissions levels. The measures do not meet all of the criteria for CEQA or NEPA mitigation measures but are considered important lease measures to reduce future emissions. This lease obligation is distinct from the requirement of further CEQA or NEPA mitigation measures to address impacts of potential subsequent discretionary Project approvals.

***MM AQ-19: Equivalent Measures***

*General Mitigation Measure. For any of the above mitigation measures (MM AQ-13 through AQ-18), if any kind of technology becomes available and is shown to be as good or better in terms of emissions reduction performance than the existing measure, the technology could replace the existing measure pending approval by the Port of Los Angeles. The technology's emissions reductions must be verifiable through USEPA, CARB, or other reputable certification and/or demonstration studies to the Port's satisfaction.*

*This measure is intended to provide PLAMT the flexibility to achieve required emissions mitigation using alternative methods that may not be apparent at present. The applicant may use an AMP alternative emission reduction technology so long as the alternative technology will achieve emission reductions equivalent to the emission reductions that would have been achieved through the use of AMP.*

***MM AQ-20: Periodic Review of New Technology and Regulations***

*The Port shall require the tenant to review, in terms of feasibility, any Port-identified or other new emissions-reduction technology, and report to the Port. Such technology feasibility reviews shall take place at the time of the Port's consideration of any lease amendment or facility modification. If the technology is determined by the Port to be feasible*

*in terms of cost, technical and operational feasibility, the tenant shall work with the Port to implement such technology at sole cost to the tenant.*

*Potential technologies that may further reduce emission and/or result in cost-savings benefits for the tenant may be identified through future work on the CAAP. Over the course of the lease, the tenant and the Port shall work together to identify potential new technology. Such technology shall be studied for feasibility, in terms of cost, technical and operational feasibility. The effectiveness of this measure depends on the advancement of new technologies and the outcome of future feasibility or pilot studies. If the tenant requests future Project changes that would require environmental clearance and a lease amendment, future CAAP mitigation measures would be incorporated into the new lease at that time.*

*As partial consideration for the Port's agreement to issue the permit to the tenant, tenant shall implement not less frequently than once every 7 years following the effective date of the permit, new air quality technological advancements, subject to the parties' mutual agreement on operational feasibility and cost sharing which shall not be unreasonably withheld.*

*In addition, the Port shall require the tenant to evaluate the application of a AMECs or similar stack control technology within 5 years of project approval and implement such technology, pending separate CEQA analysis, if found to be feasible.*

**MM AQ-21: Throughput Tracking**

*If the project exceeds project throughput assumptions/projections anticipated through the years 2015, 2025, or 2040, staff shall evaluate the effects of this on the emission sources (ship calls, crude oil throughput) relative to the SEIS/SEIR. If it is determined that these emission sources exceed SEIS/SEIR assumptions, staff would evaluate actual air emissions for comparison with the SEIS/SEIR and if the criteria pollutant emissions exceed those in the SEIS/SEIR, then new or additional mitigations would be applied through MM AQ-20.*

**Rationale for Finding**

Changes or alterations in the form of mitigation measures have been incorporated into the project in the form of AQ-13 through AQ-21 which substantially lessen significant construction emissions, as shown in Table 4. Although reduced as a result of the mitigation measures, construction emissions remain significant and unavoidable.

**Table 5: Operations Ambient Air Concentrations**

**Table 5.1. Offsite Ambient Air Pollutant Concentrations Associated with Operation of the Proposed Project without Mitigation** <sup>1,2</sup>

<i>Pollutant</i>	<i>Averaging Period</i>	<i>Maximum Impact (µg/m<sup>3</sup>)</i>	<i>Background Concentration (µg/m<sup>3</sup>)</i>	<i>Total Impact (µg/m<sup>3</sup>)</i>	<i>SCAQMD Thresholds of Significance</i>	<i>Exceeds Threshold? (Y/N)</i>
NO <sub>2</sub>	1-hour	83.25	263.2	346.45	338	Y
	Annual	3.38	54.5	57.88	56	Y
CO	1-hour	7.76	6,670	6,677.76	23,000	N
	8-hour	2.66	5,405	5,407.66	10,000	N
PM <sub>10</sub>	24-hour	0.52	51.0	---	2.5	N
	Annual	0.18	30.6	---	20	N

PM <sub>2.5</sub>	24-hour	0.42	58.5	---	2.5	N
<i>Notes:</i> 1. The NO <sub>2</sub> and CO thresholds are absolute thresholds; the maximum predicted impact from operation activities is added to the background concentration for the Project vicinity and compared to the threshold. 2. The PM <sub>10</sub> and PM <sub>2.5</sub> threshold is an incremental threshold; the maximum predicted impact from operation activities (without adding the background concentration) is compared to the threshold.						
<b>Table 5.2. Offsite Ambient Air Pollutant Concentrations Associated with Operation of the Proposed Project with Mitigation 1,2</b>						
<i>Pollutant</i>	<i>Averaging Period</i>	<i>Maximum Impact (µg/m<sup>3</sup>)</i>	<i>Background Concentration (µg/m<sup>3</sup>)</i>	<i>Total Impact (µg/m<sup>3</sup>)</i>	<i>SCAQMD Thresholds of Significance</i>	<i>Exceeds Threshold? (Y/N)</i>
NO <sub>2</sub>	1-hour	20.37	263.2	283.57	338	N
	Annual	3.44	54.5	57.94	56	Y
CO	1-hour	3.32	6,670	6,673.32	23,000	N
	8-hour	2.32	5,405	5407.32	10,000	N
PM <sub>10</sub>	24-hour	0.35	51.0	---	2.5	N
	Annual	0.17	30.6	---	20	N
PM <sub>2.5</sub>	24-hour	0.20	58.5	---	2.5	N
<i>Notes:</i> 1. The NO <sub>2</sub> and CO thresholds are absolute thresholds; the maximum predicted impact from operation activities is added to the background concentration for the Project vicinity and compared to the threshold. 2. The PM <sub>10</sub> and PM <sub>2.5</sub> threshold is an incremental threshold; the maximum predicted impact from operation activities (without adding the background concentration) is compared to the threshold.						

While the mitigation measures presented in the SEIS/SEIR reduce emissions, emissions would still exceed SCAQMD 1-hour and annual NO<sub>2</sub> ambient thresholds. Therefore, these emissions represent significant and unavoidable air quality impacts under CEQA. The Final SEIR has accelerated implementation and/or modified of some mitigation measures proposed in the Draft SEIS/SEIR, namely MM AQ-14 and MM AQ-15, to further reduce operational emissions. The revisions to mitigation measures include revisions to MM AQ-14 and MM AQ-15. In regards to AMP, the new requirements call for all frequent callers to use AMP at the facility by the end of year two of operations thereby increasing AMP participation for frequent callers beyond the Draft SEIS/SEIR requirements. In regards to low sulfur fuel, the new requirement calls for low sulfur fuel use in 100% of all ships from day one unless there are either technical or operational feasibility issues, thereby increasing low sulfur fuel use for a portion of the ships beyond the Draft SEIS/SEIR requirements. The net effect of the revised assumptions/mitigation measures would reduce mitigated operational emissions compared to the uncorrected values. However, because the new requirements capture a yet to be determined number of ships, the revised mitigated operational emissions are assumed to still exceed the CEQA and NEPA emissions thresholds. Therefore, the revisions to operational assumptions/mitigation measures used in the Draft SEIS/SEIR that are included in the Final SEIS/SEIR were not evaluated for precise quantification of their potential to reduce emissions from proposed operational activities.

Therefore, while the mitigation measures presented in the Final SEIR reduce emissions, emissions would still exceed the SCAQMD 1-hour and annual NO<sub>2</sub> ambient thresholds. Mitigation measures AQ-13 through AQ-21 represent feasible means to reduce air pollution impacts from proposed operational sources. The discussion below includes more details on suggested changes to mitigation measures raised in comments on the Draft SEIS/SEIR.

Ocean Going Vessels

Comments were received on-ocean going vessel mitigations from USEPA (USEPA 9 and 11), SCAQMD 20, 21, and 22), the PCAC Air Quality Subcommittee (PCAC-AQ-3, 5, and 6), the PCAC Past EIR Subcommittee (PCAC-EIR-6), Central San Pedro Neighborhood Council (CSPNC 8-11), Kathleen Woodfield and John Miller (KW/JM-10), Melanie Jones and Peter Warren (MJ/PW 14-15), Ultramar (Ultramar 10 and 14) and the Communities for a Safe Environment (CSE-46 and 48). Comments requested the following: (1) that the phase-in schedule for AMP, low sulfur fuel, and slide valve use be accelerated to further reduce emissions from ocean going vessels and (2) that ships use 0.1% low sulfur fuel instead of 0.2% low sulfur fuel. In addition, there were a number of suggestions to use Alternative Maritime Emission Control System (AMECS) instead of or in addition to AMP.

#### *Alternative Maritime Power (AMP) and Slide Valves*

MM AQ-15 calls for phasing in AMP between year 2 and year 16 of operation. MM AQ-15 was amended in the Final SEIR to increase AMP participation by frequent callers (2 or more calls a year) starting within two years of operations. The percentages required in MM AQ-15 represent the most aggressive feasible phase-in requirements for a project that accommodates calls by marine oil tankers. Both CARB and POLA have considered the applicability of AMP to tankers and concluded that tankers are not currently equipped to take advantage of AMP (CAPP, 2007). The CARB adopted an AMPing rule in 2007 that did not include tankers. It is currently considering other measures applicable to tankers but no regulation has been proposed. Likewise, the Clean Air Action Plan (CAAP) concluded that shore power is generally best suited for vessels that make multiple calls per year, require significant demand for power while at berth, and vessels that will continue to call at the same terminal for multiple years. In general, crude oil tankers do not fit within these categories. For tankers, the CAAP concluded that only crude tankers that have diesel-electric powered pumps were considered to be good candidates. The CAAP suggested alternative hotelling emissions reduction technologies for vessels that do not fit the model most suited to AMPing. Such technologies include shore-powered dockside electrical pumps for tankers to reduce on-board pumping loads. The proposed Project includes shore-powered pumps to be used on all vessel calls. This is in conformance with the feasibility findings of the CAAP.

Currently, only two tankers in the world crude oil tanker fleet are equipped for AMPing and they are both diesel-electric vessels (CARB, 2006). (The world crude oil tanker fleet includes approximately 1,200 vessels that could be expected to call at Berth 408 (Aframax or larger), and it is believed that there are only 9 crude oil tankers that are diesel-electric (Nestor Taura, per. comm). The two AMP-equipped tankers are owned by British Petroleum and have been modified for use at BP's Berth 121 at the Port of Long Beach but have yet to make a single call using AMP due to a series of technical issues. The BP tankers are not configured to be able to utilize the proposed AMP facility at Berth 408. Thus, to date, the successful application of AMPing technology to crude oil tankers has not been demonstrated despite several years of effort by BP and funding by the Port of Long Beach. This is an extremely aggressive schedule considering that no crude oil tanker likely to call at Berth 408 is equipped for cold ironing. Plains expects the shore power requirement in early years will be met by retrofitting a small number of vessels traveling between POLA and South America, which would make sense because they are most likely to be frequent callers.

There are currently no oil tankers equipped with slide valves (Nestor Taura, per. comm). Slide valves, while technically easier to install on ships than is AMP, will need to be designed specifically for oil tankers (this technology is currently in use only on container vessels). In addition, even after slide valve technology is adapted for tankers, the ships must be dry-docked to install such technology, which would necessitate a temporary and highly expensive removal from service. MM AQ-16 requires the applicant to use slide valves to the maximum extent feasible. Nevertheless, due to

uncertainty about how much compliance with MM AQ-16 can feasibly be accomplished, the SEIS/SEIR does not assume any emissions reductions due to slide valves

As discussed in the SEIS/SEIR, subject to lease measures AQ-19 (Equivalent Measures) and AQ-20 (New Technology), another technology for emissions reduction may eventually be used as an alternative to AMP. One such technology is the Advanced Cleanup Technologies, Inc. (ACTI) new Advanced Maritime Emissions Control System (AMECS). The s AMECS system involves a bonnet, which for the maritime version would be fitted over a ship's exhaust stack, and uses a series of scrubber processes to remove harmful compounds. To facilitate its eventual implementation should AMECS be determined to be usable at Berth 408, the proposed Project includes construction of the support infrastructure for AMECS (i.e., a pile-supported platform and approach). More details about the AMECS, its evaluation for inclusion in the proposed Project, and its potential for eventual use at Berth 408 are provided in Section 1.2.4.2.1 of the Final SEIS/SEIR and MM AQ-15 and MM AQ-20 in Section 3.2. Installation of AMECS is not currently identified as a mitigation measure in the SEIS/SEIR, since it has not yet been determined feasible or effective. Mitigation of the effects of the proposed Project using AMECS would require separate environmental analysis if added in the future. In regards to AMECs, the following discussion was added to the Final SEIS/SEIR:

In the alternative, the Port may, upon application by the tenant, and subject to all applicable laws and regulations, permit the tenant to install and employ and Alternative Maritime Emission Control System (AMECS) system, either in combination with or in place of AMP as designated in the Port's permit, to satisfy the requirements of this mitigation measure; provided that the Port first finds, based on environmental review prepared pursuant to CEQA, all of the following:

- (4) that AMECS is a feasible mitigation measure;
- (5) that the Port and CARB have verified that use of AMECS, as permitted by the Port, would achieve emissions reductions equivalent to or better than those identified in this SEIS/SEIR as occurring under this mitigation measure through the use of AMP alone; and
- (6) that either
  - d. the use of AMECS, as permitted by the Port to achieve the purposes of this mitigation measure, would result in no new or substantially more severe significant adverse impact to the environment, or
  - e. any new or substantially more severe adverse impact to the environment resulting from the use of AMECS as permitted by the Port to achieve the purposes of this mitigation measure would be mitigated to a less than significant level, or
  - f. overriding considerations, as defined under CEQA, make appropriate the use of AMECS as permitted by the Port to achieve the purposes of this mitigation measure.

*Low Sulfur Fuel*

MMAQ-11 calls for phasing-in use of 0.2% sulfur fuel between years 1 and 7 of operations. The Port received a number of comments on MMAQ-11 from SCAQMD, NRDC, the PCAC Air Quality Subcommittee, the PCAC Past EIR Subcommittee, CSPNC, CSE, and MJ/PW. The comments requested a shorter phase-in schedule and using 0.1% instead of 0.2% low sulfur fuel in order to reduce emissions from vessels while in transit. In response, the Port amended MM AQ-11's phase-in schedule to increase from year 1 for all ships. Ships with technical or operational feasibility would have longer to phase-in use of such fuel.

Use of 0.2% low sulfur fuel for some marine tankers is infeasible in the short term due to availability. Virtually all marine tankers carry distillate (at approximately 0.5% sulfur) for purposes of cleaning main engines of the Heavy Fuel Oil (HFO) when a vessel must be taken out of service for its five year survey and for the emergency generators (Nestor Taura, per. comm). However, 0.2% sulfur fuel may not be available at all ports of origin in the short term and therefore the use of 0.2% low sulfur fuel is being phased-in over time. The majority of tankers calling at Berth 408 in the short term are expected to originate in the oil producing regions of the Middle East, West Africa, or South America. Recent low-sulfur fuel availability studies completed by the California Air Resources Board (CARB) and the Port do not support a finding that 0.2% sulfur fuel is available worldwide and in particular at the ports where some project trips are expected to originate (POLA, 2008). Under MM AQ-14, vessels originating from ports with no 0.2% low sulfur fuel will come in on distillate and then load on 0.2% fuel into the distillate tank.

In regards to the request to mandate fuel with a fuel content of 0.1% instead of 0.2%, the Port has found that requiring 0.1% is infeasible due to availability issues. In order to allow for some margin of error and product contamination in the distribution system, when a shipping line orders 0.2% sulfur fuel, they are actually receiving a fuel with lower sulfur content of between 0.13% and 0.16%. Therefore, if the mitigation measure required 0.1% fuel, the fuel supplier would have to provide fuel at a lower than 0.1% content, which may not be currently possible at refineries. Additionally, 0.2% is consistent with the CAAP. In developing and approving the CAAP, the Ports of Los Angeles and Long Beach met and collaborated with agencies (including CARB, SCAQMD, and USEPA), environmental and community groups, and the shipping industry. As a result of this collaborative process, 0.2% sulfur fuel was found to be feasible from port-wide perspective.

#### *Shore-side Pumps*

The vessel's pumps used to off-load crude represent another emission source. USEPA (9) specifically requested full replacement of the vessel's pumps with shore-side pumps. As noted in SEIS/SEIR Section 3.2, Section 3.2.4.3.2 Operations, full replacement of the vessel's pumps with shore-side pumps is not feasible due to the need for a hydraulic lift that would be required to pull the crude oil from the holds of the vessels. This initial lift over the side of the vessel must still be provided by ship pumps.

USEPA, in comments on the Draft SEIS/SEIR, suggests that shoreside pumps with enough power could pull crude oil from the ship without using shipboard pumps and the boilers that power these pumps. This concept is infeasible due to the construction of crude carriers, the physics of fluid flow, crude oil vapor pressure and the concept of "suction lift" (Flowserve, 2002, Cameron Hydraulic Data Book: Section 1, "Hydraulic Principals".)

At its most basic form, a crude carrier is a box of multiple compartments that floats in the water. When a crude carrier is full, the box sits very low with most of the box below water level and only a small part (freeboard) visible above the water. As the crude oil is removed from the crude carrier, the box rises with respect to the water because the crude carrier is lighter as there is less crude oil inside.

Therefore, the position of the ship relative to the dock changes with the amount of crude oil in the crude carrier and with the tidal change in water level.

The depth of the crude carrier is in the range of 50 to 100 feet. If the crude were pulled from the compartments of the tank, some component of the crude oil would vaporize as it is lifted from the bottom of the ship to the deck of the ship (this effect is referred to as suction lift). Suction lift exists when the liquid supply level or suction source is below the pump centerline or impeller eye. Total suction lift is equal to the static lift (the depth of the ship's hull) plus all frictional losses in the suction line including entrance loss (the end of the pipe where the crude oil enters the pipe.)

The maximum theoretical height that 68°F water can be lifted is 33 feet. Water has a vapor pressure of 0.339 pounds per square inch absolute (psia) at 68°F. Crude oil will have a vapor pressure of 4-8 psia. The maximum theoretical lift that can be achieved for crude oil is about 15-16 feet. This number does not include frictional losses within the piping. The crude oil cannot get to the deck (50 to 100 feet above the bottom of the ship.) In addition to needing to raise the crude oil to the upper levels of the ship, the crude oil is generally offloaded from the ship via a series of offloading marine transfer arms referred to as "loading arms". Typically these loading arms, due the fact they are designed to accommodate a wide variety of ships (size, length, and width) along with the various tidal and wave actions that can be encountered, extend a considerable distance above the ships (at least another 30 to 40 feet), in effect increasing the amount of elevation that the crude oil would actually need to be lifted by an on-shore suction action. This situation is another major reason that the pumps on board the vessel are critical to the crude oil cargo offloading of the ship.

Crude carriers have pumps located at the bottom of the ship to avoid the suction lift effect. The pumps are connected to the various compartments in the ship that contain the crude oil. These pumps are virtually always driven by steam turbines that are supplied with steam generated by on-board boilers. The proposed design has the ship's pumps pumping the crude oil out of the ship's hull through the ship's piping system, through loading arm structures and onto the shore. This will require relatively low power when compared to other marine terminals where the ship might pump 5 or 6 miles to the tank farm. The current design requires the ship's pumps to pump through a 42-inch diameter pipeline approximately ½ mile to the electrically driven shore-side pumps which will add the pressure required to pump the oil the remaining distance to the tank farm.

#### *Proposed Lease Measures*

In addition to the comments on the above mitigation measures, a number of comments (PCAC-AQ 7 and 8, CSPNC-12 and 13, and NWSPNC-13 and 14) requested amending lease measures AQ-20 *Periodic Review of New Technology and Regulations* and AQ-21 *Throughput Tracking*. Currently, AQ-21 requires throughput tracking in years 2015, 2025, or 2040. Those milestone years correspond to the years for which the SEIS/SEIS projects future throughput levels and resulting air quality impacts of the proposed Project. Under mitigation measure AQ-21, if throughput in any of the milestone years is higher than anticipated in the SEIS/SEIR, Port staff will evaluate Project air emissions and – if criteria pollutants exceed those projected for that year in the SEIS/SEIR, will apply new or additional mitigation if feasible. Comments on the Draft SEIS/SEIR requested more frequent (every five years) tracking. Because this lease measure is linked to years for which the SEIS/SEIR projects future throughput and air emissions levels, more frequent throughput tracking under mitigation measure AQ-21 is not practicable. Likewise, AQ-20, is a lease measure that would establish a process which by the Port and tenant would work together to review and install new feasible technology to reduce air emissions. Comments suggested requiring the Port and tenant to meet more frequently. As stated in the measure, the Port and the tenant are required to meet not less

frequently than once every 7 years, but could meet more frequent if new technology is identified. Therefore, there is no need to increase participation.

**Impact AQ-8: The proposed Project would produce GHG emissions that would exceed CEQA Baseline levels.**

In each future project year, annual construction and operational greenhouse gas (GHG) emissions would increase relative to GHG emissions in the CEQA baseline year (for this analysis, the baseline is considered zero). For the purposes of this SEIS/SEIR, any emissions above the CEQA baseline were considered significant under CEQA. Gases that trap heat in the atmosphere are called GHGs. GHGs are emitted by natural processes and human activities. Examples of GHGs that are produced both by natural processes and industry include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O). Examples of GHGs created and emitted primarily through human activities include fluorinated gases (hydrofluorocarbons and perfluorocarbons) and sulfur hexafluoride. The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without these natural GHGs, the Earth's surface would be about 61°F cooler (AEP, 2007). However, emissions from fossil fuel combustion for activities such as electricity production and vehicular transportation have elevated the concentration of GHGs in the atmosphere above natural levels. According to the Intergovernmental Panel on Climate Change (IPCC), 2007, the atmospheric concentration of CO<sub>2</sub> in 2005 was 379 ppm compared to the pre-industrial levels of 280 ppm. In addition, The Fourth U.S. Climate Action Report concluded, in assessing current trends, that CO<sub>2</sub> emissions increased by 20 percent from 1990-2004, while CH<sub>4</sub> and N<sub>2</sub>O emissions decreased by 10 percent and 2 percent, respectively. There appears to be a close relationship between the increased concentration of GHGs in the atmosphere and global temperatures. For example, the California Climate Change Center reports that by the end of this century, temperatures are expected to rise by 4.7 to 10.5°F due to increased GHG emissions. Scientific evidence indicates a trend of increasing global temperatures near the earth's surface over the past century due to increased human induced levels of GHGs.

GHGs differ from criteria pollutants in that GHG emissions do not cause direct adverse human health effects. Rather, the direct environmental effect of GHG emissions is the increase in global temperatures, which in turn has numerous indirect effects on the environment and humans. For example, some observed changes include shrinking glaciers, thawing permafrost, later freezing and earlier break-up of ice on rivers and lakes, a lengthened growing season, shifts in plant and animal ranges, and earlier flowering of trees (IPCC, 2001). Other, longer term environmental impacts of global warming may include sea level rise, changing weather patterns with increases in the severity of storms and droughts, changes to local and regional ecosystems including the potential loss of species, and a significant reduction in winter snow pack (for example, estimates include a 30-90% reduction in snowpack in the Sierra Mountains). Current data suggests that in the next 25 years, in every season of the year, California will experience unprecedented heat, longer and more extreme heat waves, greater intensity and frequency of heat waves, and longer dry periods.

The main contributors to GHG construction emissions include: (1) transit and hotelling of general cargo vessels during deliveries; (2) tugboats that deliver dike rock; (4) barge equipment used to place rip-rap and wharf pilings; and (5) earth-moving equipment. The main contributors to operational GHG emissions include: (1) vessel movements and at berth in hotelling mode; (2) offloading of crude from vessels and (3) vapor release from tanks.



In addition to GHG, the Project could also potentially contribute black carbon. Black Carbon is a form of carbon produced by incomplete combustion of fossil fuel and wood that may also contribute to climate change. Black carbon aerosols absorb, rather than reflect, solar radiation, which shades the Earth's surface, but warms the atmosphere. In the proposed Project, black carbon would be formed as part of diesel combustion and is a part of DPM.

## **Finding**

As shown in Table 6 GHG emissions would exceed the CEQA baseline in all Project years, and therefore would be a significant impact under CEQA. Although mitigation measures reduce GHG emissions, emissions remain significant and unavoidable. In the Final SEIR, AQ-1 through AQ-21 (listed previously), and AQ-22 through AQ-27 are identified as reducing GHG emissions from construction and operation, as shown in Table 5. Therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. However, as further shown in Table 5, incorporation of these mitigation measures would not reduce GHG emissions below significance.

### ***MM AQ-22: Leadership in Energy and Environmental Design (LEED)***

*The administration building shall obtain the Leadership in Energy and Environmental Design (LEED) gold certification level. LEED certification is made at one of the following four levels, in ascending order of environmental sustainability: certified, silver, gold, and platinum. The certification level is determined on a point-scoring basis, where various points are given for design features that address the following areas (U.S. Green Building Council 2005):*

- *Sustainable Sites*
- *Water Efficiency*
- *Energy and Atmosphere*
- *Materials and Resources*
- *Indoor Environmental Quality*
- *Innovation and Design Process*

### ***MM AQ-23: Compact Fluorescent Light Bulbs***

*All interior terminal building lighting shall use compact fluorescent light bulbs and the tenant shall maintain and replace all compact fluorescent bulbs.*

### ***MM AQ-24: Energy Audit***

*The tenant shall conduct a third party energy audit every 5 years and install innovative power saving technology where feasible, such as power factor correction systems and lighting power regulators. Such systems help to maximize usable electric current and eliminate wasted electricity, thereby lowering overall electricity use.*

### ***MM AQ-25: Solar Panels***

*The applicant shall install solar panels on the administration building.*

### ***MM AQ-26: Recycling***

*The tenant shall ensure a minimum of 40 percent of all waste generated in all terminal buildings is recycled by 2012 and 60 percent of all waste generated in all terminal buildings is recycled by 2015. Recycled materials shall include: (a) white and colored paper; (b) post-it*

notes; (c) magazines; (d) newspaper; (e) file folders; (f) all envelopes including those with plastic windows; (g) all cardboard boxes and cartons; (h) all metal and aluminum cans; (i) glass bottles and jars; and (j) all plastic bottles.

**MM AQ-27: Tree Planting**

The applicant shall plant shade trees around the administration building. All shade trees shall be maintained over the life of the project.

**Rationale for Finding**

Climate change, as it relates to man-made GHG emissions, is by nature a global impact. An individual project does not generate enough GHG emissions to significantly influence global climate change by itself (AEP, 2007). The issue of global climate change is, therefore, a cumulative impact. Nevertheless, for the purposes of this SEIS/SEIR, the Port has opted to address GHG emissions as a project-level impact, as well as a cumulative impact. As shown below in Table 6, GHG emissions are significant and unavoidable for all Project years.

**Table 6: GHG Emissions**

Project Scenario/Source Type	METRIC TONS PER YEAR			
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	HFC-125
<b>Year 2010</b>				
Project Emissions No Mitigation	0.25	35,900	4.47	36,069
Project Emissions With Mitigation	0.25	33,723	4.38	33,892
CEQA Baseline	0	0	0	0
Project Minus CEQA Baseline	0.25	35,900	4.47	36,069
Mitigated Project Minus CEQA Baseline	0.25	33,723	4.38	33,892
<b>Year 2015</b>				
Project Emissions No Mitigation	0.32	45,185	5.65	45,402
Project Emissions With Mitigation	0.35	45,147	5.41	45,369
CEQA Baseline	0	0	0	0
Project Minus CEQA Baseline	0.32	45,185	5.65	45,402
Mitigated Project Minus CEQA Baseline	0.35	45,147	5.41	45,369
<b>Year 2025</b>				
Project Emissions No Mitigation	0.42	57,250	7.21	57,533
Project Emissions With Mitigation	0.43	54,239	6.67	54,515
CEQA Baseline	302,223	25.2	5.9	0.05
Project Minus CEQA Baseline	0.42	57,250	7.21	57,533
Mitigated Project Minus CEQA Baseline	0.43	54,239	6.67	54,515
<b>Year 2040</b>				
Project Emissions No Mitigation	0.42	57,250	7.21	57,533
Project Emissions With Mitigation	0.39	48,816	6.19	49,066
CEQA Baseline	0	0	0	0
Project Minus CEQA Baseline	0.42	57,250	7.21	57,533
Mitigated Project Minus CEQA Baseline	0.39	48,816	6.19	49,066
One metric ton equals 1000 kilograms, 2205 lbs, or 1.1 U.S. (short) tons. CO <sub>2</sub> e = the carbon dioxide equivalent emissions of all GHGs combined. The carbon dioxide equivalent emission rate for each GHG represents the emission rate multiplied by its global warming potential (GWP). The GWPs are 1 for CO <sub>2</sub> ; 21 for CH <sub>4</sub> ; 310 for N <sub>2</sub> O; 2800 for HFC-125; 1300 for HFC-134a; and 3800 for HFC-143a.				

The construction sources for which GHG emissions were calculated include off-road diesel equipment, on-road trucks, marine cargo vessels used to deliver equipment to the site, and worker commute vehicles. The operational emission sources for which GHG emission were calculated include ships, tugboats, yard equipment, on-terminal electricity usage, and worker commute vehicles. Changes or alterations in the form of mitigation measures have been incorporated into the project in the form of AQ-1 through AQ-21 (listed previously), and AQ-22 through AQ-27, which lessen significant construction emissions. The Final SEIR has accelerated implementation and/or modified of some mitigation measures proposed in the Draft SEIS/SEIR to further reduce GHG emissions. However, as shown above, while the mitigation measures presented in the Final SEIR reduce emissions, GHG emissions remain significant and unavoidable. The discussion below includes more details on suggested changes to mitigation measures raised in comments on the Draft SEIS/SEIR.

Regarding GHG mitigations, comments were received on the Draft SEIS/SEIR from the Center for Biological Diversity (CBD-11 through 16 & 18 through 21), NRDC (NRDC-13, 35 through 39 & 41) and the Attorney General's Office (AG-2, 5, & 7 through 31) (Attachment 1). Comments were largely restricted to operational emissions and suggested reducing the phase in schedule for MMAQ-6 (AMP), adding additional measures to reduce idling, incorporating efficiency and/or low emissions standards into emission sources, increasing the use of electric equipment, and increasing green building standards.

#### Operation:

USEPA (9), SCAQMD (21), the PCAC Air Quality Subcommittee (PCAC-AQ-3), the PCAC Past EIR Subcommittee (PCAC-EIR-6), Central San Pedro Neighborhood Council (CSPNC 9), Kathleen Woodfield and John Miller (KW/JM-10), Melanie Jones and Peter Warren (MJ/PW 15), Ultramar (Ultramar 10) and the Communities for a Safe Environment (CSE-46, 48 and 62). Comments on operation mitigation fell into four categories: (1) increases in AMP mitigation (2) shore-side pumps; and (3) Installing Vertical Axis Wind Turbines.

#### *Alternative Maritime Power (AMP) and Slide Valves*

MM AQ-15 calls for phasing in AMP between year 2 and year 16 of operation. MM AQ-15 was amended in the Final SEIR to increase AMP participation by frequent callers (2 or more calls a year) starting within two years of operations. In regards to further accelerating AMP, the percentages required in MM AQ-15 represent aggressive phase-in requirements for a marine oil tanker. Both CARB and POLA have considered the applicability of cold ironing to tankers and concluded that they are not good candidates. The CARB adopted a cold ironing rule in 2007 that did not include tankers. It is currently considering other measures applicable to tankers but no regulation has been proposed. Likewise, the Clean Air Action Plan (CAAP) concluded that shore power is generally best suited for vessels that make multiple calls per year, require significant demand while at berth, and vessels that will continue to call at the same terminal for multiple years. In general, crude oil tankers do not fit within these categories. For tankers, the CAAP concluded that only crude tankers that have diesel-electric powered pumps were considered to be good candidates. The CAAP suggested alternative hotelling emissions reduction technologies for vessels that do not fit the shore power model. Such technologies include shore-powered dockside electrical pumps for tankers to reduce on-board pumping loads. Berth 408 has proposed shore-powered pumps to be used on all vessel calls. This is in conformance with the feasibility findings of the CAAP.

Currently, only two tankers in the world crude oil tanker fleet are equipped for cold ironing and they are both diesel-electric vessels and there are no oil tankers equipped with slide valves. (The world crude oil tanker fleet consists of approximately 1,200 vessels that could be expected to call at Berth 408 (Aframax or larger), and it is believed that there are only 9 crude oil tankers that are diesel-electric.) The two AMP-equipped tankers are owned by British Petroleum and have been modified for use at BP's Berth 121 at the Port of Long Beach but have yet to make a single call using AMP due to a series of technical issues. The BP tankers are not configured to be able to utilize the proposed AMP facility at Berth 408. Thus, to date, the successful application of cold ironing technology to crude oil tankers has not been demonstrated despite several years of effort by BP and funding by the Port of Long Beach. Slide valves, while technically easier to install on ships than AMP, must be designed specifically for oil tankers (this technology is currently in use on container vessels). In addition, ships must be dry-docked to install such technology when it is developed, which removes them from service. MM AQ-15 represents an extremely aggressive schedule considering that no crude oil tanker likely to call at Berth 408 is equipped for cold ironing; while MM AQ-16 requires the applicant to use slide valves to the maximum extent feasible. Plains expects the shore power requirement in early years will be met by retrofitting a small number of vessels traveling between POLA and South America, which would make sense because they are most likely to be frequent callers.

#### Shore-side Pumps

The vessel's pumps used to off-load crude represent another emission source. USEPA (9) specifically requested full replacement of the vessel's pumps with shore-side pumps. As noted in SEIS/SEIR Section 3.2, Section 3.2.4.3.2 Operations, full replacement of the vessel's pumps with shore-side pumps is not feasible due to the need for a hydraulic lift that would be required to pull the crude oil from the holds of the vessels. This initial lift over the side of the vessel must still be provided by ship pumps.

The comments suggest that shoreside pumps with enough power could pull crude oil from the ship without using shipboard pumps and the boilers that power these pumps. This concept is unfeasible due to the construction of crude carriers, the physics of fluid flow, crude oil vapor pressure and the concept of "suction lift" (Flowserve, 2002, Cameron Hydraulic Data Book: Section 1, "Hydraulic Principals".)

At its most basic form, a crude carrier is a box of multiple compartments that floats in the water. When a crude carrier is full, the box sits very low with most of the box below water level and only a small part (freeboard) visible above the water. As the crude oil is removed from the crude carrier, the box rises with respect to the water because the crude carrier is lighter as there is less crude oil inside. Therefore, the position of the ship relative to the dock changes with the amount of crude oil in the crude carrier and with the tidal change in water level.

The depth of the crude carrier is in the range of 50 to 100 feet. If the crude were pulled from the compartments of the tank, some component of the crude oil would vaporize as it is lifted from the bottom of the ship to the deck of the ship (this effect is referred to as suction lift). Suction lift exists when the liquid supply level or suction source is below the pump centerline or impeller eye. Total suction lift is equal to the static lift (the depth of the ship's hull) plus all frictional losses in the suction line including entrance loss (the end of the pipe where the crude oil enters the pipe.)

The maximum theoretical height that 68°F water can be lifted is 33 feet. Water has a vapor pressure of 0.339 pounds per square inch absolute (psia) at 68°F. Crude oil will have a vapor pressure of 4-8 psia. The maximum theoretical lift that can be achieved for crude oil is about 15-16 feet. This

number does not include frictional losses within the piping. The crude oil cannot get to the deck (50 to 100 feet above the bottom of the ship.) In addition to needing to raise the crude oil to the upper levels of the ship, the crude oil is generally offloaded from the ship via a series of offloading marine transfer arms referred to as “loading arms”. Typically these loading arms, due the fact they are designed to accommodate a wide variety of ships (size, length, and width) along with the various tidal and wave actions that can be encountered, extend a considerable distance above the ships (at least another 30 to 40 feet), in effect increasing the amount of elevation that the crude oil would actually need to be lifted by an on-shore suction action. This situation is another major reason that the pumps on board the vessel are critical to the crude oil cargo offloading of the ship.

Crude carriers have pumps located at the bottom of the ship to avoid the suction lift effect. The pumps are connected to the various compartments in the ship that contain the crude oil. These pumps are virtually always driven by steam turbines that are supplied with steam generated by on-board boilers. The proposed design has the ship’s pumps pumping the crude oil out of the ship’s hull through the ship’s piping system, through loading arm structures and onto the shore. This will require relatively low power when compared to other marine terminals where the ship might pump 5 or 6 miles to the tank farm. The current design requires the ship’s pumps to pump through a 42-inch diameter pipeline approximately ½ mile to the electrically driven shore-side pumps which will add the pressure required to pump the oil the remaining distance to the tank farm.

#### *Vertical Axis Wind Turbines*

As described in Section 1.6.2.3 of the SEIS/SEIR, the Port has already agreed to construct a 10 megawatt photovoltaic solar system on its property under an environmental program that is separate from approval of the proposed Project. The proposed Project includes all reasonable and feasible mitigation measures to reduce its own energy consumption, including certification of the administration building, terminal control building, and security building according to the Leadership in Energy and Environmental Design (LEED) standards established by the U.S. Green Building Council. The Port is also developing a comprehensive Climate Change Action Plan to address GHG emissions from Port operations. GHG emissions at the Port are largely a function of diesel combustion and thereby addressing these emissions will not only help address potential climate change effects but also local health issues from diesel sources.

The Port and USACE also considered an alternative to the proposed Project of constructing a solar or wind power facility on all or portions of the site As described in Section 2.5.3.13, constructing a renewable energy generation facility such as a wind or wave power facility would be inconsistent with land use policies and would not accomplish the objectives of the project to provide the facilities needed to accommodate a portion of the future demand for crude oil imports to southern California. This alternative would also preclude uses that would realize the benefits of the deep-draft channel created by the Port and USACE to accommodate deep-draft tanker vessels. Accordingly, this alternative was eliminated from consideration

## **Biological Resources**

As discussed in Section 3.3 of the SEIS/SEIR, there would be three significant and unavoidable impacts to Biological Resources as a result of the proposed Project.

**Impact BIO-1.2: Operation of proposed Project facilities could affect individuals of or habitat for the California least tern and other special status species.**

The operation of the proposed Project could have significant impacts to the California least tern through increased predation and oil spills into Harbor waters that would reduce the population size. An increase in predation on least terns due to the proposed Project would be a significant impact. Any oil spills into Harbor waters that occur during April through August would have the potential to cause significant, unavoidable impacts to least terns. Offshore oil spills would have no impacts to the least tern. With the sound barrier in place around the shipping pumps and transformers (as part of proposed Project), noise and vibration from the shipping pumps, combined with other proposed Project equipment noise, would have a less than significant impact on the least terns. Proposed Project noise would be relatively constant while background noise would fluctuate with peaks and dips related to other activities on Pier 400. Project lighting would have minimal effects on light levels in the least tern nesting site, due to shielding, height (less than 30 feet), and size of the lights, thereby resulting in less than significant impacts.

Impacts of oil spills to the California brown pelican would likely be less than significant because few individuals in the population (California and Mexico) would be affected, and oil spills in the Port would not affect breeding success of the species because none breed in the Harbor area. Because of their generally coastal distribution, few if any individuals would be affected by offshore oil spills. In the worst case, however, a number of brown pelicans could be affected by an oil spill (in the Harbor or offshore) with significant, unavoidable impacts.

No natural plant communities, eelgrass beds, wetlands, or mudflats are present at the proposed Project sites, and operations at those sites would result in no impacts under CEQA. Impacts of Tank Farm Site 1 operation to the California least tern SEA (nesting habitat) would be mitigated to less than significant, although a significant impact to the least terns from oil spills would remain following mitigation, as described in Impact BIO-1.2. Impacts of an oil spill in the Harbor that reached eelgrass beds, however, would be significant in the short term. Operational activities on land and in the water would not substantially reduce or alter essential fish habitat (EFH), and impacts would be less than significant. Small oil spills in the Harbor and offshore would have less than significant impacts to sustainable fisheries because few fish within managed populations would be affected and effects would be of short duration. Large offshore oil spills would also have less than significant impacts to sustainable fisheries for the reasons described above.

## **Finding**

Mitigation measures BIO-1.2a through BIO-1.2f have been developed to reduce potential impacts. Implementation of MM BIO-1.2a and MM BIO-1.2b would reduce impacts on the least tern nesting area from predatory birds and other animals to less than significant. Implementation of MM BIO-1.2d and MM BIO-1.2e would further reduce the potential for impacts from lighting and human activity. Implementation of MM BIO-1.2c would reduce the potential for impacts of small or moderate oil spills on the least tern. Therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. Incorporation of these mitigation measures, however, would not reduce the potential for impacts of small or moderate oil spills on the least tern to below significance. A small (e.g., up to 238 bbl) or larger oil spill, even though associated with a low probability of occurrence, that was not contained during the least tern nesting season could result in significant and unavoidable impacts.

**MM BIO-1.2a: Structure Perches.** *The portions of all structures (buildings, lights, etc.) at the proposed Tank Farm Site 1 on Pier 400 that have a direct line of sight to the least tern nesting site shall be designed to prevent birds from perching on them. The prevention measures cannot be specified at this time but shall be those approved by the USFWS at the time of installation (e.g., Nixalite currently used on high mast lights) and shall be monitored during the least tern nesting season to verify that predatory birds are not perching on proposed Project structures and to identify any repairs needed to keep the measures in good working order. Any such repairs shall be implemented immediately (i.e., within one day while least terns are present).*

**MM BIO-1.2b: Predator Control.** *A qualified biologist shall monitor Tank Farm Site 1 for predators during the least tern nesting season. Any predators found will be controlled in coordination with CDFG and USFWS.*

**MM BIO-1.2c: Oil Spill Containment.** *If a project-related oil spill occurs during the least tern nesting season and has the potential to enter the Pier 300 Shallow Water Habitat, booms shall be deployed to prevent oil from entering this important foraging area. The applicant shall ensure quick deployment of oil booms at the south entrance of the Pier 300 Shallow Water Habitat or at the causeway gap bridge, either through storage of booms at the south entrance to the Pier 300 Shallow Water Habitat and at the causeway gap bridge or through deployment at these locations in accordance with the approved oil spill response plan.*

**MM BIO-1.2d: Security Lighting.** *Security lighting standards on the eastern side of Tank Farm Site 1 near the least tern nesting site shall be no greater than 30 ft (9.1 m) in height and directed away from the nesting site.*

**MM BIO-1.2e: Operations Personnel Environmental Training.** *The Port shall provide environmental training by a qualified biologist to all operational workers at the PLAMT Pier 400 Marine Terminal and Tank Farm Site 1. This shall include, but not be limited to, information about the California least tern (e.g., seasonal presence, pictures of the birds, and regulatory protections) and measures required to avoid or minimize the potential for adverse effects to the species. The latter measure shall include placement of food in sealed containers and daily disposal of all food wastes in sealed containers, with off-site disposal at regular intervals; prohibition on bringing pets or animals of any kind to work on Pier 400; and scheduling significant maintenance/construction activities that would occur near the nesting site for the period between September and March.*

#### **California Brown Pelican**

**MM BIO-1.2c** would apply for oil spill impacts within the Harbor for the California brown pelican, but no mitigation is feasible for significant oil spill impacts to the California brown pelican outside of the Pier 300 Shallow Water Habitat.

#### **Other Species**

No mitigation is needed for less than significant impacts. However, although the likelihood of a collision between a project-related vessel and marine mammals is very low and is considered less than significant, the following measure would further reduce potential impacts:

***MM BIO-1.2f: Vessel Speed Reduction Program.*** All ships calling (100 percent) at Berth 408 shall comply with the expanded VSR Program of 12 knots between 40 nm from Point Fermin and the Precautionary Area from Year 1 of operation.

The SEIS/SEIR discussed potential impacts to eel grass beds that would result in the case of an oil spill. MM BIO-1.2c would reduce the impacts of oil spill impacts within the Harbor on eelgrass beds in the Pier 300 Shallow Water Habitat. Therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the SEIR. Incorporation of these mitigation measures, however, would not reduce not reduce the potential for impacts of small or moderate oil spills on eel grass beds at Cabrillo Beach to below significance.

***MM BIO-1.2c: Oil Spill Containment.*** If a project-related oil spill occurs during the least tern nesting season and has the potential to enter the Pier 300 Shallow Water Habitat, booms shall be deployed to prevent oil from entering this important foraging area. The applicant shall ensure quick deployment of oil booms at the south entrance of the Pier 300 Shallow Water Habitat or at the causeway gap bridge, either through storage of booms at the south entrance to the Pier 300 Shallow Water Habitat and at the causeway gap bridge or through deployment at these locations in accordance with the approved oil spill response plan.

### **Rationale for Finding**

All feasible measures to avoid or lessen the impact of oil spills have been identified in the SEIS/SEIR, but the risk of an oil spill remains a possibility (See MM Bio-1.2c, above, and discussion of Impact RISK -2.1, below.) There are no additional feasible mitigation measures that would reduce the potential for accidental oil spills to significantly affect the least terns when they are present and foraging in the area (e.g., during April through August), because the potential for a spill cannot be eliminated. Comments were received on the Draft SEIS/SEIR regarding impacts to least terns from the USEPA (USEPA 23), California State Lands Commission (CSLC-52). Both comments dealt with the proximity of the proposed Project to the least tern nesting site. One comment suggested moving the Tank Farm Site 1 to an alternative location, while the other suggested relocating the least tern nesting site. In addition, CSLC (40) also suggested a new mitigation measure to monitor nighttime lighting effects on the least tern. The discussion below includes more details on suggested changes to mitigation measures raised in comments on the Draft SEIS/SEIR.

#### *Least Tern Site Location*

Regarding relocating Tank Farm 1 to expand the California Least Tern preserve. There is not enough open area at Tank Farm 2 to accommodate the tanks proposed for Tank Farm. It should also be noted, that the sizing of the least tern nesting site to 15 acres was done with intent of providing adequate space/buffering taking into account the surrounding land uses. Specifically, the intent of the interagency MOA is “not to encumber more than fifteen (15) acres”. Additional buffering measures associated with the project-specific assessment have been incorporated in consultation with the USFWS.

CEQA authorizes implementation of mitigation measures only for the purpose of reducing or avoiding significant impacts attributable to a proposed Project. Since the observed decreases in nesting at the site as a proportion of statewide tern nesting is due to factors entirely extraneous to any proposed construction or operations activity under the proposed Project, neither CEQA nor NEPA



authorizes a relocation of Project tanks from Tank Farm 1 to Tank Farm 2 as mitigation for Project impacts.

The California least tern has been known to nest in the Los Angeles Harbor area since the late 1800's although nesting data were not regularly recorded until 1973. In 1979, the Los Angeles Harbor Department (LAHD), in consultation with the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG), began providing nesting habitat for the California least tern. In 1984, LAHD entered into a Memorandum of Agreement (MOA) with USFWS, U.S. Army Corps of Engineers (ACOE) and CDFG. The MOA, renewed every three to five years, requires the LAHD to provide 15 acres of suitable, protected nesting habitat and specifies responsibilities of the various parties to the MOA with respect to management of the "Terminal Island" Least Tern nesting site. This nesting site location has changed over the years. From 1970 through 1985, least terns nested primarily at Reeves Field, located (at that time) south of Seaside Avenue and west of the former Long Beach Naval Station. From 1981 through 1989, least terns nested on dredge fill created for Pier 300 and protected by the LAHD at the southern end of Ferry Street. From 1989 through 1997, least terns used a securely fenced nesting site provided by LAHD on the eastern edge of Pier 300. In 1997, a new Nesting Site was prepared on Pier 400 (current location).

Nesting began to increase in 1993 as a result of active management, site preparation and more consistent and effective predator management. In 1993 there were 10 nesting pairs; that number steadily increased to 1,254 pairs in 2005. Since 2005 nesting has decreased slightly to 669 pairs in 2007 and to less than 500 pairs in 2008. The reasons for the decline are numerous and include:

- 1) The creation in 2005 and 2006 of additional nesting sites for the least tern as part of the Bolsa Chica Lowlands Restoration Project in Huntington Beach (approximately 12 miles south of the Port of Los Angeles, where numbers of least tern nesting pairs have increased from approximately 130 in 2005 to 200 in 2007 (CDFG unpublished data); some of these birds may have relocated from their usual nesting site at the Los Angeles Harbor due to factors discussed in bullets 4 and 5 below. [Massey and Fancher (1981), as well as subsequent observations of color-banded adult least terns, indicate that when a nesting colony is disturbed, least terns may abandon the site to nest (or re-nest) at a nearby nesting site.]
- 2) The increase in the number of least tern nesting pairs at Venice Beach, approximately 20 miles north of the Port of Los Angeles. Least tern nesting at Venice Beach, the only other least tern nesting site in Los Angeles County, had been unsuccessful due to recurrent predation by American crows (*Corvus brachyrhynchos*). More effective management of the American Crow population preying on least tern eggs and chicks beginning in 2006 resulted in an increase in least tern nesting pairs from 17 in 2004 and 90 in 2005 to 302 in 2006 and 450 in 2007. During years when American crow predation was high at Venice, it is assumed that many least tern pairs that typically use the Venice site for nesting failed to nest there and instead used the Los Angeles Harbor nesting site. [This cannot be reliably concluded without an intensive study involving observations from a bird blind of individually-color-banded least tern at both the Venice and Los Angeles Harbor nesting sites. However, such a study is not possible because few individually-color-banded least terns remain in the population following an intensive color-banding study in the late 1980's. Instead, increases in the number of nests at the Los Angeles Harbor least tern nesting site (for example, 250 least tern nests were found in one day, May 16, in 2005, compared with less than 200 nests found during previous

and subsequent days) suggest a recent influx of least tern, possibly some that are arriving from other sites.] Note that prior to heavy predation by American crows at Venice, this nesting site had typically supported over 300 nesting pairs (CDFG unpublished data).

- 3) Fluctuations in the abundance and availability of least tern prey. Least terns preferred prey is northern anchovy (*Engraulis mordax*) and other small bait fish, which although populations can be highly variable, are the most common pelagic fish species in the Port (MEC and Associates 2002). Because information on local occurrence of bait fish populations may not be available, anecdotal evidence (e.g., high observed chick mortality), increases in water temperatures during the chick-fledgling period (anchovies prefer cooler waters), and a decrease in observations of least tern parents bringing fish into the nesting site are all factors used by least tern biologists to infer at least a localized insufficiency in least tern prey (KBC 2003 and 2005). [On the subject of chick mortality, observed chick mortality includes the number of chicks observed dead from unknown causes or from depredation (evidence includes dismantled chick carcasses). For example, at the Los Angeles Harbor nesting site, chick mortality (898 dead chicks) represented 41% of all hatched eggs in 2005, and 44% in 2007 (KBC 2005 and 2007a).]
- 4) In addition to high observed chick mortality (see item 3 above), the Los Angeles Harbor nesting site has experienced a high number of potential avian predators, particularly peregrine falcon (*Falco peregrinus*) and burrowing owl (*Athene cunicularia*) during recent years. Frequent visits to a nesting site by peregrine falcons, which prey on young as well as adult least tern, results in temporary nest abandonment, or sometimes in abandonment of the nesting site (K Keane, pers. comm.). The increase in peregrine falcons in the Los Angeles Harbor area is a result of higher reproductive success in recent years (for example 9 fledglings in 2007 [Jeff Sipple, pers. comm.]); the fledglings disperse and are often observed at the Los Angeles Harbor nesting site, sometimes preying on least tern but always causing adults to leave nests. These more frequent disturbances have likely provoked some least that previously nested at the Los Angeles Harbor nesting site to nest elsewhere (see footnote 1).

In regards to relocating the least tern nesting site, the comment recommended that the Port find/create adequate alternate habitat for least terns if monitoring observes terns do not return to their nests after or during construction is noted. As stated on Page 3.3-4 of the Draft SEIS/SEIR, MM 4D-10 (from the Deep Draft EIS) is not applicable because there would be no need to relocate the tern nesting area as a result of the proposed project. This is because feasible mitigation measures would reduce any potentially significant impacts to the least terns during construction to less than significant levels, including MM 4D-7 (establish appropriate buffer if nests observed outside the designated nesting area), MM 4D-9 (200-foot buffer between nesting site and staging areas), and MM BIO 1.1a-k (monitoring, buffers, predator perch control, site preparation, avoidance of night lighting, environmental window, noise). After construction, least terns would not be expected to be affected by the project based on distance and noise considerations. The Port has a long history of working with USFWS to minimize impacts and appropriately manage nest sites for least terns in the harbor, including use of the Pier 400 nesting site (per the 2006 Memorandum of Agreement signed by the City of Los Angeles, California Department of Fish and Game, U.S. Fish and Wildlife Service, and U.S. Army Corps of Engineers). As noted in the document, the Port as a long-term objective may construct a permanent least tern nesting site for relocation of the colony in Los Angeles Harbor or to Los Cerritos Wetlands in accordance with the existing least tern Memorandum of Agreement (MOA). Potential sites have includes a “bird-island” in the outer harbor and in Sea Plane Lagoon. However, no acceptable sites have been identified to date.

### *Nighttime Lighting*

Lighting along the eastern security fence would be adjacent to the California least tern nesting area. These lights would have directional beams pointing away from the nesting area but would add an increment to the general night light levels at the nesting site from the existing lighting for the APL Container Terminal to the north. Tank stairs, platforms, and instrument locations would have lights with shields and deflectors to direct light at the work area only. These lights would be smaller, located at distances of 120 ft (36.6 m) or greater from the nesting site, and unlikely to affect light levels at the nesting site. Proposed Project lighting along the eastern side of Tank Farm Site 1 would not result in a substantial increase in nighttime light levels at the California least tern nesting site. A small increase in light levels could extend a short distance into the least tern nesting site, primarily at the southwestern corner. However, the nesting site is approximately 850 ft (259 m) wide, and a low level of increased light along the western edge would have a low potential to disturb least tern roosting at night or to increase predation on the least terns. Monitoring indicates that California least terns have adapted to artificial lighting at Pier 400 without adverse effects on nesting success (K. Keane, personal communication 2008). The mitigation measure is provided to ensure that the light standards along the east side of Tank Farm Site 1 are no higher than 30 feet and that the lights are shielded to direct light away from the least tern nesting site. These lights would be much smaller than the existing high mast lights (120 feet tall) at the AMP container terminal just north of the nesting site.

### *Oil Spills*

Proposed Project operations, including temporary holding and shipment of crude oil through underground pipelines to the Valero Refinery, would occur mostly on already-developed land and would not affect any natural habitats. Oil spills during vessel transit within the Outer Harbor could reach the Cabrillo Shallow Water Habitat and eelgrass beds near Cabrillo Beach. Spilled oil is less likely to reach the eelgrass beds in the Pier 300 Shallow Water Habitat due to distance and the ability to more effectively boom this area off. Effects on the plants, if spilled oil were to reach them, would be adverse but of short duration (Committee on Oil in the Sea 2003, Okada 2001). Invertebrates within eelgrass beds would also be adversely affected with rapid recovery for most species (Jacobs 1980, Jewett and Dean 1997, Den Hartog and Jacobs 1980). The oil would float, toxic volatile components would evaporate or be diluted (Jordan and Payne 1980) before the oil reaches these areas, and the oil would be cleaned up immediately in compliance with SPCC requirements and the proposed Project OSCP, thereby reducing the potential for toxic effects. Oil spills in offshore waters would not reach any natural habitats before being cleaned up or weathering until toxic components had evaporated. Thus, oil spills could cause a substantial reduction or alteration of eelgrass habitats but would not substantially affect other natural habitats.

Accidental oil spills during operations could also affect marine biological resources such as marine birds, fish, and intertidal invertebrates through direct contact with the oil (physical effects) or toxic effects of components in the oil (particularly the lighter, soluble/volatile components). Cleanup of spilled oil could have further impacts on these organisms through direct removal or toxicity of cleaning agents. The amount of habitat and numbers of organisms affected would depend on the size of the spill, type of oil, season, and oceanographic conditions. Small spills (e.g., up to 238 bbl) during vessel transit in the Port could occur with a frequency of one per 217 years, assuming all proposed Project vessels are double hulled. Impacts to marine birds from even small oil spills would be significant and unavoidable in the worst-case for the reasons described above because local communities could be substantially disrupted. Oil spills at the tank farms would be contained and would have no impacts to biological communities. Spills from buried pipelines would also be

contained on land and would have no impacts to biological communities. Oil spills from the two above-ground pipeline segments into Harbor waters would be unlikely to occur during the proposed Project (probability of once in more than one million years). In the worst case, however, impacts of a crude oil spill into waters of the Inner Harbor from a proposed Project pipeline rupture would be significant for local intertidal communities. An MGO spill during barge transit within the Harbor could cause substantial disruption of local biological communities, resulting in a significant impact. Runoff of pollutants and habitat alteration would have impacts that are less than significant for the reasons described above. Impacts of habitat alteration would be less than significant due to the minor changes that would occur.

Regarding impacts to eel grass beds, comments were received on the Draft SEIS/SEIR from the USEPA (24) and CSE (52). USEPA recommended establishing an Eelgrass Mitigation Program, while CSE recommended establishing a Wetlands Restoration Mitigation Trust Fund.

In response to USEPA's suggestion, MM RISK-2.1c has been added as shown below:

***MM RISK-2.1c: Oil Spill and Eelgrass Habitat** If there is an oil spill event in the marine environment, an assessment of eelgrass habitat will be conducted by a qualified biologist and appropriate coordination will be undertaken with NMFS to ensure appropriate mitigation consistent with the Southern California Eelgrass Mitigation Policy.*

Implementation of MM BIO-2.1c would further reduce but not eliminate the potential for impacts of oil spills on eelgrass beds. There are no additional feasible mitigation measures that would eliminate the possibility of oil spills which, if they were to occur, could significantly impact eelgrass beds. Oil spills, even though associated with a low probability of occurrence, that were not contained could, therefore, result in significant and unavoidable impacts.

In response to the comment from CSE, as discussed in Section 3.3 of the SEIS/SEIR, no impacts to wetlands were found as a result of the proposed Project or alternatives. In addition, as discussed previously, the Port has previously agreed to establish a Port Community Mitigation Trust Fund geared towards addressing the cumulative off-port impacts created by Port operations. This fund includes, for example, approximately \$6 million for air filtration in schools and funding for an initial study of off-Port impacts on health and land use in Wilmington and San Pedro, as well as a more detailed subsequent study of off-Port impacts examining aesthetics, light and glare, traffic, public safety and effects of vibration, recreation, and cultural resources related to port impacts on harbor area communities.

**Impact BIO-2.2: Operation of proposed Project facilities would have the potential to substantially reduce or alter a state-, federally-, or locally-designated natural habitat, special aquatic site, or plant community, including wetlands.**

No natural plant communities, eelgrass beds, wetlands, or mudflats are present at the proposed Project sites, and operations at those sites would result in no impacts under CEQA. Impacts of Tank Farm Site 1 operation to the California least tern nesting habitat would be significant but feasibly mitigated as described in Impact BIO-1.2 (above). Impacts of an oil spill in the Harbor that reached eelgrass beds would be significant in the short term. Operational activities on land and in the water would not substantially reduce or alter EFH, and impacts would be less than significant. Small oil spills in the Harbor and offshore would have less than significant impacts to sustainable fisheries because few fish within managed populations would be affected and effects would be of short

duration. Large offshore oil spills would also have less than significant impacts to sustainable fisheries.

## Finding

Mitigation measures MM BIO-1.2c and RISK-2.1c would reduce the potential for impacts of small or moderate oil spills on eelgrass beds. Therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. Incorporation of this mitigation measure, however, would not reduce the potential for impacts of small or moderate oil spills on eelgrass bed to below significance. A small (e.g., up to 238 bbl) or larger oil spill, even though associated with a low probability of occurrence, that was not contained could result in significant and unavoidable impacts.

***MM BIO-1.2c: Oil Spill Containment.*** *If a project-related oil spill occurs during the least tern nesting season and has the potential to enter the Pier 300 Shallow Water Habitat, booms shall be deployed to prevent oil from entering this important foraging area. The applicant shall ensure quick deployment of oil booms at the south entrance of the Pier 300 Shallow Water Habitat or at the causeway gap bridge, either through storage of booms at the south entrance to the Pier 300 Shallow Water Habitat and at the causeway gap bridge or through deployment at these locations in accordance with the approved oil spill response plan.*

***MM RISK-2.1c: Oil Spill and Eelgrass Habitat*** *If there is an oil spill event in the marine environment, an assessment of eelgrass habitat will be conducted by a qualified biologist and appropriate coordination will be undertaken with NMFS to ensure appropriate mitigation consistent with the Southern California Eelgrass Mitigation Policy.*

## Rationale for Finding

All feasible measures to avoid or lessen the impact of oil spills have been identified in the SEIS/SEIR, but the risk of an oil spill remains a possibility. There are no additional feasible mitigation measures that would reduce the potential for accidental oil spills to significantly affect the eelgrass beds because the potential for a spill cannot be eliminated. Regarding impacts to eel grass beds, comments were received on the Draft SEIS/SEIR from the USEPA (24) and CSE (52). USEPA recommended establishing an Eelgrass Mitigation Program, while CSE recommended establishing a Wetlands Restoration Mitigation Trust Fund.

In response to USEPA's suggestion, MM RISK-2.1c has been added as shown below:

***MM RISK-2.1c: Oil Spill and Eelgrass Habitat*** *If there is an oil spill event in the marine environment, an assessment of eelgrass habitat will be conducted by a qualified biologist and appropriate coordination will be undertaken with NMFS to ensure appropriate mitigation consistent with the Southern California Eelgrass Mitigation Policy.*

Implementation of MM BIO-2.1c would further reduce but not eliminate the potential for impacts of oil spills on eelgrass beds. There are no additional feasible mitigation measures that would eliminate the possibility of oil spills which, if they were to occur, could significantly impact eelgrass beds. Oil spills, even though associated with a low probability of occurrence, that were not contained could, therefore, result in significant and unavoidable impacts. In response to the comment from CSE, as

discussed in Section 3.3 of the SEIS/SEIR, no impacts to wetlands were found as a result of the proposed Project or alternatives. In addition, as discussed previously, the Port has previously agreed to establish a Port Community Mitigation Trust Fund geared towards addressing the cumulative off-port impacts created by Port operations. This fund includes, for example, approximately \$6 million for air filtration in schools and funding for an initial study of off-Port impacts on health and land use in Wilmington and San Pedro, as well as a more detailed subsequent study of off-Port impacts examining aesthetics, light and glare, traffic, public safety and effects of vibration, recreation, and cultural resources related to port impacts on harbor area communities.

**Impact BIO-4.2: Proposed Project operations, including accidental oil spills and introduction of invasive species, have the potential to substantially disrupt local biological communities.**

For intertidal invertebrates, impacts from crude oil spills into Harbor waters would most likely be less than significant and short-term, with full recovery expected to occur within a few years, as described above, and local communities would not be substantially disrupted. Impacts to local communities of plankton and fish in the Harbor and offshore would also be less than significant (no substantial disruption) for the reasons described above. Impacts to marine birds from even small oil spills would be significant and unavoidable in the worst-case for the reasons described above because local communities could be substantially disrupted. Oil spills at the tank farms would be contained and would have no impacts to biological communities. Spills from buried pipelines would also be contained on land and would have no impacts to biological communities. Oil spills from the two above-ground pipeline segments into Harbor waters would be unlikely to occur during the proposed Project. In the worst case, however, impacts of a crude oil spill into waters of the Inner Harbor from a proposed Project pipeline rupture would be significant for local intertidal communities. An MGO spill during barge transit within the Harbor could cause substantial disruption of local biological communities, resulting in a significant impact. Runoff of pollutants and habitat alteration would have impacts that are less than significant. Impacts of habitat alteration would be less than significant due to the minor changes that would occur. Although of low probability, operation of the proposed Project facilities has the potential to result in the introduction of non-native species via vessel hulls or ballast water and, thus, could substantially disrupt local biological communities. Such impacts would, therefore, be significant under CEQA.

**Finding**

Mitigation measures MM BIO-1.2c and RISK-2.1c would reduce the potential for impacts of small or moderate oil spills on eelgrass beds. Therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. Incorporation of this mitigation measure, however, would not reduce the potential for impacts of small or moderate oil spills on eelgrass bed to below significance. A small (e.g., up to 238 bbl) or larger oil spill, even though associated with a low probability of occurrence, that was not contained could result in significant and unavoidable impacts.

***Oil Spills***

***MM BIO-1.2c: Oil Spill Containment.*** *If a project-related oil spill occurs during the least tern nesting season and has the potential to enter the Pier 300 Shallow Water Habitat, booms shall be deployed to prevent oil from entering this important foraging area. The applicant shall ensure quick deployment of oil booms at the south entrance of the Pier 300 Shallow*

*Water Habitat or at the causeway gap bridge, either through storage of booms at the south entrance to the Pier 300 Shallow Water Habitat and at the causeway gap bridge or through deployment at these locations in accordance with the approved oil spill response plan.*

***MM RISK-2.1c: Oil Spill and Eelgrass Habitat*** *If there is an oil spill event in the marine environment, an assessment of eelgrass habitat will be conducted by a qualified biologist and appropriate coordination will be undertaken with NMFS to ensure appropriate mitigation consistent with the Southern California Eelgrass Mitigation Policy.*

## **Rationale for Finding**

All feasible measures to avoid or lessen the impact of oil spills have been identified in the SEIS/SEIR, but the risk of an oil spill remains a possibility. No mitigation is feasible for significant crude oil and MGO spill impacts to local marine communities. However, implementation of MM BIO-1.2c would reduce the potential for impacts from an oil spill in the Outer Harbor to marine birds using the Pier 300 Shallow Water Habitat. No mitigation is required for the less than significant impacts of crude oil spills to other local biological communities.

### *Runoff of Pollutants*

No mitigation is required.

### *Invasive Species*

Existing regulations would reduce but not eliminate the potential for introduction of invasive species via vessels. Due to the lack of a proven technology, no feasible mitigation is currently available to prevent introduction of invasive species via vessel hulls. New technologies are being explored, and if methods become available in the future they would be implemented as required at that time.

### *Habitat Alteration*

No mitigation is required.

### *Oil Spills*

For most small oil spills (less than 238 bbl) during unloading of crude oil and MGO at the berth, standard measures proposed as part of the proposed Project to prevent, contain, and cleanup the spill would reduce residual impacts to less than significant. Residual impacts of spills from the above-ground pipeline segments would be significant and unavoidable in the worst case. Oil spill response capabilities in the Harbor are summarized in **Impact BIO-1.2** and detailed in Section 3.12.

For accidental oil spills, particularly those from proposed Project vessels during transit in the Port, these measures would similarly reduce impacts, but would not eliminate the potential for such accidents to adversely impact local biological communities. Since no additional feasible mitigation is available, residual impacts from accidental oil spills that affected a substantial number of marine birds or other local biological communities would be considered significant and unavoidable.

### *Runoff of Pollutants*

Residual impacts would be less than significant.

### *Invasive Species*

Residual impacts would be significant and unavoidable.

### *Habitat Alteration*

Residual impacts would be less than significant.

All feasible measures to avoid or lessen the impact of oil spills have been identified in the SEIS/SEIR, but the risk of an oil spill remains a possibility. There are no additional feasible mitigation measures that would reduce the potential for accidental oil spills to significantly affect the eelgrass beds because the potential for a spill cannot be eliminated. Regarding impacts to eel grass beds, comments were received on the Draft SEIS/SEIR from the USEPA (24) and CSE (52). USEPA recommended establishing an Eelgrass Mitigation Program, while CSE recommended establishing a Wetlands Restoration Mitigation Trust Fund.

In response to USEPA's suggestion, MM RISK-2.1c has been added as shown below:

***MM RISK-2.1c: Oil Spill and Eelgrass Habitat*** *If there is an oil spill event in the marine environment, an assessment of eelgrass habitat will be conducted by a qualified biologist and appropriate coordination will be undertaken with NMFS to ensure appropriate mitigation consistent with the Southern California Eelgrass Mitigation Policy.*

Implementation of MM BIO-2.1c would further reduce but not eliminate the potential for impacts of oil spills on eelgrass beds. There are no additional feasible mitigation measures that would eliminate the possibility of oil spills which, if they were to occur, could significantly impact eelgrass beds. Oil spills, even though associated with a low probability of occurrence, that were not contained could, therefore, result in significant and unavoidable impacts. In response to the comment from CSE, as discussed in Section 3.3 of the SEIS/SEIR, no impacts to wetlands were found as a result of the proposed Project or alternatives. In addition, as discussed previously, the Port has previously agreed to establish a Port Community Mitigation Trust Fund geared towards addressing the cumulative off-port impacts created by Port operations. This fund includes, for example, approximately \$6 million for air filtration in schools and funding for an initial study of off-Port impacts on health and land use in Wilmington and San Pedro, as well as a more detailed subsequent study of off-Port impacts examining aesthetics, light and glare, traffic, public safety and effects of vibration, recreation, and cultural resources related to port impacts on harbor area communities.

## **Geology**

As discussed in Section 3.5 of the SEIS/SEIR, there would be two significant impacts to geology as a result of the proposed Project relating to ground shaking. As there is no known measure to eliminate the potential effects of ground shaking in an earthquake-prone area, these impacts remain significant and unavoidable.

**Impact Geo-1: The proposed Project would expose people or property to substantial risk of fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure**

## **Finding**



Design and construction in accordance with applicable laws and regulations pertaining to seismically induced ground movement would minimize structural damage in the event of an earthquake. However, increased exposure of people and property during construction to seismic hazards from a major or great earthquake cannot be precluded even with incorporation of modern construction engineering and safety standards. In addition, MM 4A-4 was identified in the Deep Draft EIR and has already previously been adopted. The Board finds that mitigation has been imposed to substantially lessen or avoid this significant impact.

*Mitigation Measure (MM) 4A-4 stated that the proposed terminal facilities would have the potential to experience severe seismically induced ground accelerations. Damage or injury should therefore be minimized through the appropriate seismic engineering design, based upon extensive site-specific geotechnical investigation.*

Nevertheless, impact would remain significant after mitigation. Therefore, impacts due to seismically induced ground failure would remain significant and unavoidable. No comments were received during public review suggesting mitigation or alternatives to reduce this significant unavoidable impact. The Board hereby finds that specific technological considerations make infeasible additional mitigation measures or project alternatives which would reduce these impacts to less-than-significant levels, as explained below.

### **Rationale for Finding**

Seismic activity along the Palos Verdes Fault Zone, or other regional faults, could produce fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure. Seismic hazards are common to the Los Angeles region and are not increased by the proposed Project. However, because the proposed Project area is potentially underlain by strands of the active Palos Verdes Fault and liquefaction-prone hydraulic fill, there is a substantial risk of seismic impacts. Seismic upgrades would be completed on existing wharves, resulting in beneficial impacts. However, because construction of new wharves, buildings, and related infrastructure would occur over an extended period (through 2025), increased exposure of people and property during construction to seismic hazards from a major or great earthquake cannot be precluded, even with incorporation of modern construction engineering and safety standards. Therefore, impacts due to seismically induced ground failure are significant and unavoidable under CEQA.

**Impact Geo-2: The proposed Project would expose people or property to substantial risk of fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure**

### **Finding**

Emergency planning and coordination between the Terminal operator and Port, as outlined in Mitigation Measure GEO-1, would contribute in reducing injuries to on-site personnel during a tsunami. Therefore, the Board hereby finds that changes or alterations have been incorporated into the project that lessen the significant environmental effect identified in the Final SEIR. Incorporation of this mitigation measures, however, would not reduce construction geological impacts below the level of significance. However, even with incorporation of emergency planning and construction in accordance with current City and State regulations, substantial damage and/or injury would occur in the event of a tsunami or seiche. While MM Geo-1 would reduce potential impacts, impacts remain significant and unavoidable. Specific technological considerations make infeasible additional mitigation measures or project alternatives, as explained below.

**MM GEO-1: Emergency Response Planning.** *The Terminal operator shall work with Port engineers and Port police to develop tsunami response training and procedures to assure that construction and operations personnel will be prepared to act in the event of a large seismic event. Such procedures shall include immediate evacuation requirements in the event that a large seismic event is felt at the proposed Project site, as part of overall emergency response planning for this proposed Project.*

*Such procedures shall be included in any bid specifications for construction or operations personnel, with a copy of such bid specifications to be provided to the LAHD, including a completed copy of its operations emergency response plan prior to commencement of construction activities and/or operations.*

### **Rationale for Finding**

Designing new facilities based on existing building codes may not prevent substantial damage to structures from coastal flooding. In addition, projects in construction phases are especially susceptible to damage due to temporary conditions, such as unfinished structures, which are typically not in a condition to withstand coastal flooding. Impacts due to tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of the proposed Project. However, because the proposed Project elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW, there is a substantial risk of coastal flooding due to tsunamis and seiches. As a result, impacts during the construction phase would be significant and unavoidable under CEQA. No comments were received during public review suggesting mitigation or alternatives to reduce this significant unavoidable impact.

### **Noise**

As discussed in Section 3.10 of the SEIS/SEIR, there would be one significant impact in regards to Noise as a result of the proposed Project during construction. This impact will be significant and unavoidable.

**Impact NOI-1: Construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use**

### **Finding**

Construction of the proposed Project is projected to result in ambient average noise increases of 5dB(A) or greater at sensitive receptors. In addition, noise from pile driving would be audible and may be perceived as intrusive or annoying by some individuals, even with mitigation required in the 1992 Deep Draft FEIS/FEIR. Therefore, under CEQA Impact NOI-1 would be significant. Considering the distances between the construction noise sources and receivers, the standard controls, and temporary noise barriers may not be sufficient to reduce the projected increase in the ambient noise level to the point where it would no longer cause a substantial increase. With implementation of these measures, construction equipment noise levels generated at the construction sites could substantially exceed existing ambient noise levels. Thus, impacts to sensitive receptors (Table 7 below) will remain significant even after mitigation. MM 4H-1 through 4H-3 and MM NOISE1 through Noise 3 would

reduce potential impacts. Therefore, the Board hereby finds that changes or alterations have been incorporated into the project that lessen the significant environmental effect identified in the Final SEIR. Incorporation of this mitigation measure, however, would not reduce noise impacts during construction impacts below the level of significance. Specific technological considerations make infeasible additional mitigation measures or project alternatives, as explained below.

**MM 4H-1:** *contractors shall utilize the quietest equipment available, and all internal combustion powered equipment shall be equipped with properly operating mufflers and kept in tune to avoid backfires. In addition, if exposed, engines are to be fitted with protective shrouds to reduce motor noise.*

**MM 4H-2:** *if ample local grid power is available, electricity would be obtained from the local power grid to avoid the use of portable generators.*

**MM 4H-3:** *a disturbance coordinator will be designated for responding to noise complaints, with his/her name and telephone number to be clearly posted at the construction site.*

**MM BIO-1.1k: Noise Reduction during Pile Driving**

*The contractor shall be required to use sound abatement techniques to reduce both noise and vibrations from pile driving activities. Sound abatement techniques shall include, but are not limited to, vibration or hydraulic insertion techniques, drilled or augured holes for cast-in-place piles, bubble curtain technology, and sound aprons where feasible. At the initiation of each pile driving event, the pile driving shall also employ a “soft-start” in which the hammer is operated at less than full capacity (i.e., approximately 40–60% energy levels) with no less than a 1-minute interval between each strike for a 5-minute period.*

*In addition, a qualified biologist hired by the Port shall be required to monitor the area in the vicinity of pile driving activities for any fish kills during pile driving. If there are any reported fish kills, pile driving shall be halted and the USACE and NMFS shall be notified via the Port’s Environmental Management Division. The biological monitor shall also note (surface scan only) whether marine mammals are present within 100 meters of the pile driving, and if any are observed, temporarily halt pile driving until the observed mammals move beyond this distance.*

**MM NOISE-2: Restricted Hours for Pile Driving.** *In order to reduce the potential impact during construction, pile driving activities at Pier 400 would be limited to between the hours of 9:00 A.M and 5:00 P.M. on Monday-Friday and 10:00 A.M. to 4:00 P.M. Saturday.*

**MM NOISE-3: Erect Temporary Noise Attenuation Barriers Adjacent to Stationary Construction Equipment Directly Between the Equipment and Sensitive Receptors, where Necessary and Feasible.** *Construction equipment that will be stationary for extended periods (pipeline boring machinery, compressors, generators, etc.) can be shielded by erection of temporary noise attenuation barriers. The barriers should be installed directly between the equipment and the nearest noise sensitive use to the construction site. The need for and feasibility of noise attenuation barriers should be evaluated on a case-by-case basis considering the distance to noise sensitive receptors, the available space at the construction location, and taking account of safety and operational considerations. Noise attenuation barriers suitable for pile driving equipment should be considered using the same criteria*

**Rationale for Finding**

To assess pipeline construction noise exposure at the nearest sensitive locations, a composite of the noise level data for construction equipment was used to model resulting noise levels at identified noise-sensitive receptors, taking into consideration the effects of distance attenuation. For general construction equipment, a combined level of 91 dB(A) at 50 feet was used as the source noise level consistent with the FHWA model recommendations. For pipeline boring, a noise level of 92 dB(A) at 50 feet was used based on information provided by the applicant (see Table 3.10-6). Using the FHWA equation which calculates  $L_{eq}$  based on reference source noise levels, the four most sensitive receptor locations (defined as residential locations closest to project noise sources) were assessed for potential impacts. Table 7 provides a summary of the ambient versus construction noise impacts estimated for the four sensitive receptors from pipeline construction. The table is based on the logarithmic averages of ambient noise levels without any adjustment for time of day. The time of day is indicated in column 3. Consistent with measures committed to for the project, construction would occur only between 7:00 AM and 6:00 PM, so the actual measurement times for two receptors do not coincide with periods when construction would occur. As a review of Table 7 indicates, the potential for noise impacts is above the 5 dB criterion at Areas 1 and 2, but well below that at Areas 21 and LR-2. Nevertheless, the impact of pipeline construction noise would be considered significant at Areas 1 and 2.

**Table 7 Estimated Pipeline Construction-Related Noise Impacts on Most Sensitive Receptors**

<i>Area # in Figure 3.10-1</i>	<i>Location</i>	<i>Time of Day</i>	<i>Calculated (<math>L_{eq}</math>)</i>	<i>Total Construction Noise</i>	<i>Total Ambient + Construction</i>	<i>Increase over Existing</i>
1	Berth 204	9:42 pm 9:57 pm	53	59	60	7
2	Lighthouse Yacht Landing	10:07 pm 10:22 pm	52	58	59	7
21	Stephen White Street & Oliver Vickery Circle Way	3:30 pm 3:45 pm	54	42	54	<1
LR-2	Reservation Point	4:45 pm 5:00 pm	54	42	54	<1

To assess marine terminal construction noise exposure at the nearest sensitive locations, a composite of the noise level data for construction equipment was used to model resulting noise levels at identified noise-sensitive receptors, taking into consideration the effects of distance attenuation. For general construction equipment, a combined level of 91 dB(A) at 50 feet was again used as the source noise level consistent with the FHWA model recommendations. For pile driving, a noise level of 107 dB(A) at 50 feet was used based on the highest level in Table 8, the large size of piles proposed for wharf construction. Table 8 shows the estimated construction-related impacts at the selected sensitive receptors combining general construction and pile driving equipment. The noise level is projected to exceed ambient levels by more than 5 dB at Area LR-2 (Reservation Point). The noise impact from terminal construction is therefore considered significant.

**Table 8 Estimated Terminal Construction-Related Noise Impacts on Most Sensitive Receptors**

<i>Area # in Figure 3.10-1</i>	<i>Location</i>	<i>Time of Day</i>	<i>Calculated (<math>L_{eq}</math>)</i>	<i>Total Construction Noise</i>	<i>Total Ambient + Construction</i>	<i>Increase over Existing</i>
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**Table 8 Estimated Terminal Construction-Related Noise Impacts on Most Sensitive Receptors**

<i>Area # in Figure 3.10-1</i>	<i>Location</i>	<i>Time of Day</i>	<i>Calculated (L<sub>eq</sub>)</i>	<i>Total Construction Noise</i>	<i>Total Ambient + Construction</i>	<i>Increase over Existing</i>
1	Berth 204	9:42 pm 9:57 pm	53	51	55	2
2	Lighthouse Yacht Landing	10:07 pm 10:22 pm	52	50	54	2
21	Stephen White Street & Oliver Vickery Circle Way	3:30 pm 3:45 pm	54	56	58	4
LR-2	Reservation Point	4:45 pm 5:00 pm	54	65	65	11

In the above tables, projected increases in noise at the closest locations to construction are considered significant (equal to or greater than 5 dB) as compared to ambient average noise levels. Areas 1 (Berth 204) and 2 (Lighthouse Yacht Landing) are marinas with liveaboard slips in the Port. These areas are relatively near pipeline construction and could also experience audible noise from pile driving in addition to pipeline construction.

Area LR-2 (Reservation Point) is immediately adjacent and across water from the Pier 400 construction site. It is also the closest residential receptor to the terminal construction. Reservation Point is very near port operations including the other terminals on Pier 400 and Pier 300 as well as adjacent to the Main Channel in the Port. Harbor noise is therefore a part of the noise environment at Reservation Point. Nevertheless, the 11 dB increase in ambient noise would be significant and unavoidable.

The above analyses are based on a comparison of short term averaged noise equivalent levels. Instantaneous peaks in construction noise would unquestionably be audible at all sensitive receptors, especially during pile driving, from time to time. The noise would be intermittent, since pile driving typically involves short periods of driving interspersed with longer periods of adjustment, alignment, or relocating equipment from one driving location to another. Therefore, the average noise level, though indicative of the overall effect of the noise on the auditory environment, may not reflect the typical individual's perception of the noise as intrusive or annoying. On the basis of the likely perception of some individuals that pile driving noise is intrusive or annoying, the impact of construction noise is considered potentially significant

While noise attenuation measures may be applicable and are likely to reduce sound levels from construction, functional constraints and uncertainties as to the effectiveness of available measures or the availability of equipment with lower noise emissions may limit the effectiveness of mitigation such that impacts cannot be reduced to less than significant levels. In addition, even with noise attenuation devices, the noise of pile driving would be audible and may be perceived as intrusive or annoying by some individuals.

One comment was received during public review suggesting mitigation or alternatives to reduce this significant unavoidable impact (NMFS-4). The comment proposed including a noise complaint hotline for residents to call. This proposal has been incorporated into the Project in the form of Mitigation Measure NOI-1(i), identified above. However, with inclusion of this mitigation measure,

impacts still remain significant and unavoidable. However, given the limited duration of construction activities, the impact would be short term and there would be no long term residual impact.

## **Recreation**

As discussed in Section 3.10 of the SEIS/SEIR, there would be two significant impacts to Recreation as a result of the proposed Project during operation. This impact remains significant and unavoidable.

### **Impact REC-1.1: Construction of the proposed Project would result in a substantial loss or diminished quality of recreational, educational, or visitor-oriented opportunities, facilities, or resources**

#### **Finding**

Pile driving associated with Pier 400 construction and pipeline construction at some locations could be perceived by some to significantly diminish the quality of recreational experience. Therefore, CEQA impacts would be significant. Mitigation measures MM Bio-1.1K, NOISE-2, and MM 4K-4 will reduce noise from pile driving, as shown in Table 8. Therefore, the Board hereby finds that changes or alterations have been incorporated into the project that lessen the significant environmental effect identified in the SEIR. Incorporation of this mitigation measure, however, would not reduce noise impacts during construction impacts below the level of significance. No comments were received during public review suggesting mitigation or alternatives to reduce this significant unavoidable impact. Specific technological considerations make infeasible additional mitigation measures or project alternatives, as explained below.

#### ***MM BIO-1.1k: Noise Reduction during Pile Driving***

*The contractor shall be required to use sound abatement techniques to reduce both noise and vibrations from pile driving activities. Sound abatement techniques shall include, but are not limited to, vibration or hydraulic insertion techniques, drilled or augured holes for cast-in-place piles, bubble curtain technology, and sound aprons where feasible. At the initiation of each pile driving event, the pile driving shall also employ a “soft-start” in which the hammer is operated at less than full capacity (i.e., approximately 40–60% energy levels) with no less than a 1-minute interval between each strike for a 5-minute period.*

*In addition, a qualified biologist hired by the Port shall be required to monitor the area in the vicinity of pile driving activities for any fish kills during pile driving. If there are any reported fish kills, pile driving shall be halted and the USACE and NMFS shall be notified via the Port’s Environmental Management Division. The biological monitor shall also note (surface scan only) whether marine mammals are present within 100 meters of the pile driving, and if any are observed, temporarily halt pile driving until the observed mammals move beyond this distance.*

***MM NOISE-2: Restricted Hours for Pile Driving.*** *In order to reduce the potential impact during construction, pile driving activities at Pier 400 would be limited to between the hours of 9:00 A.M. and 5:00 P.M. on Monday-Friday and 10:00 A.M. to 4:00 P.M. Saturday.*

***MM 4K-4*** *stated that impacts to recreational boaters were to be reduced by implementation of measures such as coordinating public notifications with yacht clubs; buoying and marking construction zones; and adding boating safety measures, such as increased harbor patrols in the*

*construction areas. This measure was implemented during construction of Pier 400. This measure should be implemented again for this project to mitigate recreation impacts of the proposed Project.*

## **Rationale for Finding**

The nearest recreational facilities to the Pier 400 sites are located about 1.5 mile (2.4 km) away, and include the Cabrillo Beach recreational complex (swimming, scuba diving, wind surfing, boardsailing, jet skiing), the Cabrillo Beach Fishing Pier (angling), and various pleasure craft marinas. Additionally, there is an informal transit lane inside the Middle Breakwater running between the breakwater and Pier 400 along its southern side. This transit lane is not dedicated solely to recreational boaters and is shared with commercial vessels.

Project construction at the proposed Marine Terminal and Tank Farm Site 1 would be visible to visitors at the Cabrillo Beach recreational complex, the Cabrillo Beach Fishing Pier, and nearby recreational boaters and passenger cruisers (Catalina Express, cruise ships). However, as discussed in Section 3.1, Aesthetics and Visual Resources, construction would result in only minimal changes to the visual landscape of the Pier 400 complex, which is industrial in nature. The presence of construction equipment at Pier 400 would not obstruct views of the open water and breakwater and would blend with existing Port development. The construction activity may be considered by some to be an interesting addition to the routine waterfront activity.

The noise impact analysis (Section 3.10.4.3.1) identified several locations in the Port that are adjacent to recreational facilities where ambient noise levels would increase during pile driving for Pier 400 construction. These include the Cabrillo Marina and a residential area adjacent to Cabrillo Beach Park. Therefore, the adjacent recreational areas would also experience increased noise levels. The impacts would be temporary. However, the noise would be noticeable above ambient noise levels and may be perceived as intrusive by some.

Many recreational activities are accompanied by noise, whether it is human voices, motorized vehicles or watercraft, cheering crowds, the impact of balls on bats, or other noise generating factors, some of them quite loud. Therefore, the standards that apply to recreation facilities generally differ from standards for residential land uses. Community Noise Exposure Level (CNEL) is a 24 hour weighed average of sound energy that adds 5 dB (decibels) to sound levels between 7:00 pm and 10:00 pm and 10 dB to sound levels between 10:00 pm and 7:00 am. This analysis applies the CNEL standard to the nearest recreational receptors from Pier 400, namely Cabrillo Marina and Cabrillo Beach.

Table 9 compares noise expected to occur during the pile driving phase of construction at locations associated with recreational activity for which ambient levels have been monitored. While these locations are considered in Section 3.10 as residential receptors, they are also recreational locations, or are immediately adjacent to recreation areas. Areas 1 and 2 are marinas in the inner Harbor area. Area 21 is immediately west of Cabrillo Beach Park. Reservation Point is representative of in-harbor on-water recreational locations. For all sites, the total ambient plus construction noise level is below the City of Los Angeles CEQA threshold range for parks and playgrounds.

**Table 9 Estimated Terminal Construction-Related Noise Impacts on Recreational Receptors**

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<i>Area # in Figure 3.10-1</i>	<i>Location</i>	<i>Time of Day</i>	<i>Calculated (<math>L_{eq}</math>) (dB(A))</i>	<i>Total Construction Noise (dB(A))</i>	<i>Total Ambient + Construction (dB(A))</i>	<i>Increment over Ambient (dB(A))</i>	<i>Threshold (dB(A))</i>
1	Berth 204	9:42 pm 9:57 pm	53	51	55	2	67-70
2	Lighthouse Yacht Landing	10:07 pm 10:22 pm	52	50	54	2	67-70
21	Stephen White Street & Oliver Vickery Circle Way	3:30 pm 3:45 pm	54	56	58	4	67-70
LR-2	Reservation Point	4:45 pm 5:00 pm	54	65	65	11	67-70

*Note: dB(A) = A-weighted sound level.*

Development of the Marine Terminal at Pier 400 entails the only marine-based construction associated with the proposed Project and would require use of support boats (primarily tugs and barges) during pile driving. As discussed in Section 3.9 of the Draft SEIS/SEIR, Marine Transportation, the short-term presence of support boats at the proposed Berth 408 would not reduce the existing level of safety for vessel navigation in the Port. In addition, construction activities would not impede navigation of the Catalina Express, cruise ships, or pleasure craft in the Main Channel or other designated transit lanes, and thus, would not impact access to the Outer Harbor or open-ocean. Therefore, construction of the proposed Project would not result in a substantial loss of recreational opportunities.

Nevertheless, pile driving for marine terminal construction would entail impact noise up to 11 dB over ambient levels in the area of Reservation Point. The noise would be intermittent, since pile driving typically involves short periods of driving interspersed with longer periods of adjustment, alignment, or relocating equipment from one driving location to another. Therefore, the average noise level, though indicative of the overall effect of the noise on the auditory environment and less than the threshold range in Table 3.11-5, may not reflect the typical individual's perception of the noise as intrusive or annoying. On the basis of the likely perception of some individuals that pile driving noise is intrusive or annoying, the impact of marine terminal construction noise on the quality of recreational experience is considered potentially significant. Therefore, Pier 400 construction would significantly impact the quality of recreational and visitor-oriented resources during construction. The impact would, however, be of limited duration.

**Impact REC-1.2: Proposed Project operations could result in a substantial loss or diminished quality of recreational, educational, or visitor-oriented opportunities, facilities, or resources in the event of an oil spill**

### **Finding**

Proposed operations at the Marine Terminal at Pier 400, tank farm sites, and pipeline corridors would significantly impact the quality of recreational and visitor-oriented resources and potentially result in a loss of recreational resources relative to the CEQA Baseline in the event of an oil spill. Therefore, CEQA impacts related to REC-1.2 would be significant. MM RISK-2.1a (Double-Hulled Vessels) and MM RISK-2.1b (Quick-Release Couplings) would lower the risk of an accidental oil spill.



Therefore, the Board hereby finds that changes or alterations have been incorporated into the project that lessen the significant environmental effect identified in the Final SEIR. Incorporation of this mitigation measure, however, would not reduce noise impacts during construction impacts below the level of significance. No comments were received during public review suggesting mitigation or alternatives to reduce this significant unavoidable impact

***MM RISK-2.1a: Double-Hulled Vessels.*** *The proposed Project shall limit crude oil deliveries to double-hulled vessels. USCG regulations will require double-hulled vessels for all areas within the Exclusive Economic Zone of the U.S. starting in 2015. This measure will bar the Project from accepting deliveries from single-hulled vessels at any time after commencement of the Project.*

***MM RISK-2.1b: Quick-Release Couplings.*** *Loading arms shall be equipped with USCG-approved quick-release couplings. A crude oil flow control system shall be interlocked at the coupling that will automatically stop flow prior to disconnection.*

### **Rationale for Finding**

An accidental oil spill during vessel offloading activities at the proposed Berth 408 could degrade harbor fisheries, thereby diminishing the quality of recreational fishing at Cabrillo Beach, as well as limiting or even precluding certain on-water boating opportunities for the duration of any cleanup effort. Oil reaching a recreational marina could coat vessels moored there and, potentially, foul cooling water intakes and other below waterline fittings with potential adverse effects. Vessels coated with oil would need to be cleaned prior to future use. Beaches in the vicinity of an oil spill would potentially be oiled and require cleanup, which typically would preclude recreational uses during the cleanup effort. Depending on the size of spill, cleanup and the associated preclusion of recreational uses could last from several days to several weeks or months.

Marine oil spills have diminished in both frequency and size in the last several decades (see Section 3.12). In addition, spill response capabilities have improved as well with numerous Oil Spill Response Organizations (OSROs) having been established to provide all manner of spill response services and resources. A spill containment boom will be deployed around each tank vessel upon arrival prior to crude oil transfer and will remain in place during all transfer operations. Nevertheless, a minor or major spill of a few hundred or a few thousand barrels that escaped containment could spread within the harbor area.

The facility would be designed to protect the environment in the immediate vicinity of unloading operations. As noted above, booms would be deployed around offloading vessels to prevent oil from migrating into the greater harbor area should a spill occur. Additionally, as discussed in Section 3.12, Risk of Upset/Hazardous Materials, recommended MM RISK-2.1a (Double-Hulled Vessels) and MM RISK-2.1b (Quick-Release Couplings) would lower the risk of an accidental oil spill. As presented in Table 3.12-6, the risk of a minor spill is approximately one in 43 years by 2025-2040. Similarly, the risk of a moderate spill is much lower (one in 21,631 years), though the consequences are greater. A minor (less than 238 bbl or 10,000 gallons) or moderate (238 to 2,380 bbl) oil spill would result in short term adverse recreational impacts.

Therefore, operations at Pier 400, including vessel offloading, have the potential for a significant adverse impact on the quality of recreational and visitor-oriented resources and to result in a loss of recreational resources in the event of even minor spills. The loss of recreational opportunities would be short term, but the temporary magnitude of the loss could be substantial.

## **Risk of Upset and Hazards**

As discussed in Section 3.12 of the SEIS/SEIR, there would be two significant impacts to Risk of Upset and Hazards as a result of the proposed Project during operation. These impacts remains significant and unavoidable.

### **Impact RISK-2.1: An accidental crude oil spill from a tanker would result in risks to the public and/or environment**

#### **Finding**

Proposed operations at the Marine Terminal at Pier 400, tank farm sites, and pipeline corridors would significantly impact the quality of recreational and visitor-oriented resources and potentially result in a loss of recreational resources relative to the CEQA Baseline in the event of an oil spill. Therefore, CEQA impacts related to REC-1.2 would be significant. MM RISK-2.1a, RISK-2.1b and RISK-2.1c would lower the risk of an accidental oil spill. In addition, MM 4I-2 was identified in the Deep Draft EIR and has already previously been adopted. Therefore, the Board hereby finds that changes or alterations have been incorporated into the project that lessen the significant environmental effect identified in the Final SEIR. One comment was received during public review suggesting mitigation or alternatives to reduce this significant unavoidable impact and as discussed below, the mitigation measure was included. Incorporation of this mitigation measure, however, would not reduce noise impacts during construction impacts below the level of significance. Specific technological considerations make infeasible additional mitigation measures or project alternatives, as explained below.

***MM RISK-2.1a: Double-Hulled Vessels.*** *The proposed Project shall limit crude oil deliveries to double-hulled vessels. USCG regulations will require double-hulled vessels for all areas within the Exclusive Economic Zone of the U.S. starting in 2015. This measure will bar the Project from accepting deliveries from single-hulled vessels at any time after commencement of the Project.*

***MM RISK-2.1b: Quick-Release Couplings.*** *Loading arms shall be equipped with USCG-approved quick-release couplings. A crude oil flow control system shall be interlocked at the coupling that will automatically stop flow prior to disconnection.*

***MM RISK-2.1c: Oil Spill and Eelgrass Habitat.*** *If there is an oil spill event in the marine environment, an assessment of eelgrass habitat will be conducted by a qualified biologist and appropriate coordination will be undertaken with NMFS to ensure appropriate mitigation consistent with the Southern California Eelgrass Mitigation Policy.*

**Mitigation Measure (MM) 4I-2** required that all facility operators handling hazardous liquid in bulk be a member of the Clean Coastal Waters (CCW) cooperative or equivalent Oil Spill Response Organization (OSRO) approved by the U.S. Coast Guard (USCG).

#### **Rationale for Finding**

#### **Figure 1. Risk Matrix of Crude Oil Unloading Spills**

		Probability				
		Extraordinary > 1,000,000 years	Rare > 10,000 < 1,000,000 years	Unlikely > 100 < 10,000 years	Likely > 1 and < 100 years	Frequent (> 1/year)
Consequences	Disastrous (>357,142 bbl)					
	Severe (2,380–357,142 bbl)					
	Major (238–2,380 bbl)		<b>Large Loading Arm Spill</b>			
	Minor (10-238 bbl)			<b>Small Loading Arm Spill</b>		
	Negligible (<10 bbl)					
<i>Note:</i> Incidents that fall in the shaded area of the risk matrix would be classified as significant.						

Spill probabilities for open ocean vessel transit were evaluated based on USCG recommendations for open ocean allisions, collisions, and groundings. While the probability of an open ocean incident is lower than in the vicinity of a port due to greater vessel spacing, the conditional probability of an oil spill resulting from an accident is higher due to greater vessel speeds. Potential impacts from a release of crude product from a tanker during ocean transit would be considered a significant impact in the absence of mitigation. The probabilities of these events are considered Unlikely for larger spills, but the consequences range from Severe to Disastrous for larger spills. The consequences associated with small oil spills would be considered Minor, and insignificant using the Risk Matrix approach.

Various incident rates were reported (see Table 3.9-3 in Section 3.9, Marine Transportation) ranging from 0.02 to 0.2 percent frequency of occurrence per transit. The San Pedro Bay Ports have recorded annual incident rates ranging from 0.02 to 0.07 percent per transit, which is consistent with industry observations. The average incident rate over the period 1997-2005 was 0.046 percent per transit. The vessel traffic increase due to the proposed Project would be up to 201 tankers per year. The worst-case oil spill that could occur from a Project-related tanker would be the entire tanker contents of the largest tanker, or 2.5 million bbl. A catastrophic failure of the tanker with the release of full cargo would constitute a “disastrous” consequence per the Risk Matrix significance criteria. For single-hulled tankers, the probability of a spill would be Rare, but would be considered Disastrous, which would be considered a significant impact in the absence of mitigation. For double-hulled tankers, the probability of a complete loss of the tanker contents would be considered “Extraordinary” and would be less than significant.

Again, using the Risk Matrix approach shown in Figure 1 and the spill probabilities presented in SEIS/SEIR, potential impacts from a release of petroleum from a tanker while in LAHD-controlled

waters would be considered a less than significant impact, in the absence of potential impacts on sensitive or endangered species. This less than significant impact for oil spills reflects the LAHD's better-than-average safety record, the types of vessels that would visit the proposed Marine Terminal, and the available spill response capabilities. However, the Cabrillo Shallow Water Habitat (1,900 ft [580 meters] away) and the Pier 400 Least Tern Habitat (2,400 ft [750 meters] away) are very close to the Marine Terminal, and a spill within the Port would impact sensitive resources and result in the degradation of the habitat. Therefore, potential impacts associated with oil spills resulting from a vessel accident would be significant.

The owner or operators of tanker vessels are required to have an approved Tank Vessel Response Plan on board and a qualified individual within the U.S. with full authority to implement removal actions in the event of an oil spill incident, and to contract with the spill response organizations to carry out cleanup activities in case of a spill. The existing oil spill response capabilities in the San Pedro Bay Ports are sufficient to isolate with containment boom and recover the maximum possible spill from an oil tanker within the port.

Various studies have shown that double-hull tank vessels have lower probability of releases when tanker vessels are involved in accidents. Because of these studies, the USCG issued regulations addressing double-hull requirements for tanker vessels. The regulations establish a timeline for eliminating single-hull vessels from operating in the navigable waters or the Exclusive Economic Zone of the U.S. after January 1, 2010, and double-bottom or double-sided vessels by January 1, 2015. Only vessels equipped with a double hull, or with an approved double containment system will be allowed to operate after those times. It is unlikely that single-hull vessels will utilize the proposed Project terminal facilities given the current proposed Project schedule and the planned phase-out of these vessels.

One comment was received regarding accidental oil spills. USEPA (USEPA-24) recommended a new mitigation measure regarding eelgrass. In response, the following mitigation measure has been added to the Final SEIR:

***MM RISK-2.1c: Oil Spill and Eelgrass Habitat.** If there is an oil spill event in the marine environment, an assessment of eelgrass habitat will be conducted by a qualified biologist and appropriate coordination will be undertaken with NMFS to ensure appropriate mitigation consistent with the Southern California Eelgrass Mitigation Policy.*

However, impacts remain significant and unavoidable mainly due to the fact that, while preventative measures will reduce the risk of an oil spill, the risk cannot be eliminated entirely. Although potential impacts from a release of petroleum from a tanker while in LAHD-controlled waters would be considered a less than significant impact in the absence of potential impacts on sensitive or endangered species, oil spill impacts are considered significant due to the potential for an oil spill to adversely impact those species and degrade habitat.

**Impact RISK-5: A potential terrorist attack would result in risks to the public and environment in areas near Pier 400**

**Finding**

Potential consequences of a terrorist attack on the Pier 400 facilities are considered Major due to the potential for a small number of offsite injuries in the event of a successful attack. Potential thermal radiation and explosion overpressure levels do not result in the overlap of any existing, planned, or permitted vulnerable resources, but the potential for limited public exposure along the Port waterways is possible. The likelihood of a successful terrorist attack -- and the key here is the likelihood of both an

attack occurring and that it is successful -- is considered fairly low. However, potential impacts related to terrorism risk would be considered significant given the environmental and public safety consequences associated with a successful terrorist attack. A variety of programs are in place at the Port to reduce potential terrorist threats. The Berth 408 operators would be required to participate in these programs, thus further minimizing the risk associated with terrorism. For the proposed Project this would include vehicle barriers, site control and regular patrols. In addition, MM 41-7 was identified in the Deep Draft EIR and has already previously been adopted. The Board finds that mitigation has been imposed to substantially lessen or avoid this significant impact.

*MM 41-7 required that the Port Police provide adequate security coverage of the area. For the proposed Project this would likely include vehicle barriers, site control and regular patrols.*

Nevertheless, impact would remain significant after mitigation. No additional mitigation is possible and impacts remain significant and unavoidable. The Board hereby finds that specific technological considerations make infeasible additional mitigation measures or project alternatives which would reduce these impacts to less-than-significant levels, as explained below.

## **Rationale for Finding**

Evacuation planning for all hazards, man-caused or naturally occurring (such as earthquakes), is a continuing planning effort. Federal, State and local agencies meet and develop planning contingencies, develop communication and logistic protocols and exercise them. As the events may change and conditions become dynamic, the planning teams stage resources, plan exercises and optimize response strategies. Evacuation planning continues between the Port Police, the Los Angeles Fire and Police Departments (LAPD and LAFD), and the California Highway Patrol. LAPD and LAFD have the primary responsibility for evacuation of community areas that are outside the borders of the port complex. Even in these instances, the Port Police may fulfill a support role to ensure coordination and assist with planning, evacuations, and perimeter control.

Because of the port's proximity to the community, the port police may be called upon to function as first responders to any incident in or near the complex until a unified command is established to control the scenario. In all occurrences a primary goal of the managing entities is the incident command and control under a "Unified Command"<sup>2</sup> approach. Whereas it is appropriate to communicate general emergency preparedness and evacuation planning information to the community in advance, it is not prudent to share detailed tactical plans that are scenario and/or location-based, or contain sensitive security information. However, the City of Los Angeles is committed to protecting its citizens first and foremost in the event of an emergency.

### *Risk of Terrorist Actions during Construction*

The probability of a terrorist attack on the proposed Project facilities is not likely to appreciably change during construction compared to baseline conditions. It is possible that the increase in construction vessel traffic in the vicinity of the Berth 408 terminal could lead to a greater opportunity of

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<sup>2</sup> A Unified Command structure involves establishing a management and command hierarchy that acts upon incident information to develop actionable plans and carries authority need to delegate responders.

a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal.

*Consequences of Terrorist Attack during Construction*

During construction, a terrorist action could block key road access points and waterways and result in economic disruption. Potential environmental damage could include fuel spills and the release of hazardous materials into the marine environment, with associated degradation of water quality and damage to marine biological resources. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

*Risk of Terrorist Actions Associated with Project Operations*

The probability of a terrorist attack on the proposed Project facilities is not likely to appreciably change over current conditions. It is possible that the increase in vessel traffic in the vicinity of the Berth 408 terminal could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal.

*Consequences of Terrorist Attack Associated with Project Operations*

The potential consequences of a terrorist attack on the crude oil storage tanks and project-related pipelines would be similar to those identified under Impacts RISK-2.1, RISK-2.2, RISK-3.1 and RISK-3.2, although it is likely that consequences would be lower due to the difficulty in causing a catastrophic failure of a storage tank or pipeline. While the mechanism of damage to these facilities would be different under a terrorist attack, the worst-case consequences would be similar. The risks associated with these impacts were all considered less than significant.

In order to address potential consequences associated with a terrorist attack on a crude oil vessel at Pier 400 (or in transit), explosion overpressure and thermal radiation hazards were estimated using the methodology outlined in Section 3.12.4.1. Several worst-case assumptions were considered in the analysis, including a worst-case hole diameter of five meters and the complete loss of the vessel contents (Sandia National Laboratories 2004). Since a hole of this size would result from a large explosion, it was assumed that there would be immediate ignition of the spilled crude oil. It was also assumed that the terrorist attack would detonate the vapor space contents of the vessel. While inerting of the vessel vapor space would likely preclude vapor detonation, it was assumed that the terrorist detonation allowed for the introduction of air in the vapor space, with subsequent ignition and detonation of the hydrocarbon vapors.

Modeling results showed that explosion overpressure and thermal radiation hazard footprints generated as a result of a terrorist attack on the proposed Crude Oil Marine Terminal, Tank Farms, and Pipelines Project do not result in an overlap of any existing, planned, or permitted vulnerable resources. The potential for limited public exposure along Port waterways is possible, which could result in a small number of injuries. The number of serious injuries, which would be limited to an area within a few hundred meters of the Pier 400 Berth, would likely be small, but consequences would still be considered major.

There was one comment received regarding analysis of impact RISK-5 in the Draft SEIS/SEIR. Kathleen Woodfield and John Miller (KW/JM-4) suggested establishing a community evacuation plan as a mitigation measure. Because such a plan is already under development for the Port area as a whole, this mitigation measure was not added to the Final SEIS/SEIR. Based on the results of the risk analysis that was prepared for the proposed Project, there are not any accident events that would necessitate large-scale evacuations that are not already covered by the Port's Risk Management Plan and Harbor/Port Evacuation Plan. The RMP and Harbor/Port Evacuation Plan would be sufficient to

address the cumulative development in the vicinity of the Port, including the proposed Project as well as existing development and reasonably foreseeable future development. Therefore, no additional Project-specific evacuation modifications would feasibly further lessen this impact.

## **Water Quality**

As discussed in Section 3.13 of the SEIS/SEIR, there would be one significant impact to Water Quality as a result of the proposed Project during operation. This impact remains significant and unavoidable.

### **Impact WQ-1.2: Runoff and oil spills during operation of proposed Project facilities have the potential to result in discharges which create pollution, contamination, or nuisance, or could cause regulatory standards to be violated in harbor waters**

Operation of proposed Project facilities could create pollution, contamination, or a nuisance as defined in Section 13050 of the California Water Code or cause regulatory standards to be violated in harbor waters because there is potential for an increase in incidental spills and illegal discharges due to increased vessel calls at the facility. Leaching of contaminants such as copper, from anti-fouling paint could also cause increased loading in the harbor which is listed as impaired with respect to copper.

### **Finding**

Upland operations associated with the proposed Project would not result in direct discharges of wastes. However, stormwater runoff from the project site could contain particulate debris from operation of the project facilities. Discharges of stormwater would comply with the NPDES discharge permit limits, discussed below. Operation of the proposed Project facilities would not involve any direct point source discharges of wastes or wastewaters to the harbor. However, stormwater runoff from the Project site would be collected onsite by the storm drain system and discharged to the harbor, similar to existing conditions. Transport of these materials by runoff from the site could contribute incrementally to changes in receiving water quality. However, the facilities associated with the proposed Project would be operated in accordance with the industrial SWPPP that contains monitoring requirements to ensure that the quality of the stormwater runoff complies with the permit conditions. Also, stormwater runoff associated with terminal operations would be governed by SUSMP requirements that would be incorporated into the project plan that must be approved prior to issuance of building and grading permits. The SUSMP for the Los Angeles County Urban Runoff and Stormwater NPDES Permit ([www.swrcb.ca.gov/rwqcb4/html/programs/storwater/susmp/susmp\\_details.html](http://www.swrcb.ca.gov/rwqcb4/html/programs/storwater/susmp/susmp_details.html)) requires “minimization of the pollutants of concern” by incorporating “a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the maximum extent possible.” Examples of BMPs used for minimizing the introduction of pollutants of concern from site runoff include oil/water separators, catch basin inserts, storm drain inserts, and media filtration. These BMPs must meet specified design standards to mitigate (infiltrate or treat) stormwater runoff and control peak flow discharges. If structural or treatment control BMPs are included in the project plan, the tenant would be required to provide verification of maintenance provisions. Regulatory controls for runoff and storm drain discharges are designed to reduce impacts to water quality and would be fully implemented for the proposed Project. Tenants will be required to obtain and meet all conditions of applicable stormwater discharge permits as well as meet all Port pollution control requirements.

The number or severity of illegal discharges, and corresponding changes to water and sediment quality, from increased vessel traffic cannot be quantified because the rate and chemical composition of illegal

discharges from commercial vessels are unknown. It is reasonable to assume that increases in the frequency of illegal discharges would be proportional to the change in numbers of ship visits. In this case, loadings from illegal discharges from the proposed Project operations would increase over baseline conditions. However, there is no evidence that illegal discharges from ships presently are causing widespread problems in the harbor. Over several decades, there has been an improvement in water quality despite an overall increase in ship traffic. In addition, the Port Police are authorized to cite any vessel that is in violation of Port tariffs, including illegal discharges.

Under the proposed Vessel General Permit (VGP), discharges incidental to normal vessel operations, including anti-fouling leachate from hull coatings and underwater hull husbandry, would be governed by technology-based effluent limitations as specified in the permit. The effluent limits in the VGP are designed to minimize the discharge of pollutants from a vessel. According to USPEA (2008), compliance with permit conditions is expected to "...result in discharges that are controlled as necessary to meet applicable water quality standards."

Portions of the Harbor (Inner Cabrillo Beach and Fish Harbor; see Table 3.14-1) are impaired with respect to copper, but not in the vicinity of Berth 408. As noted in Section 3.14.2.2.7, recent data from the Port's Enhanced Monthly Water Quality Study (AMEC 2007) indicate that copper concentrations in waters adjacent to Pier 400 are below the water quality criterion (3.1 µg/L). While increased vessel traffic associated with the proposed Project would increase copper loading in the immediate vicinity of Berth 408 due to leachate from vessel hulls, this source would not be expected to increase concentrations in site waters to levels above the criterion. However, because there would not be any physical barriers to prevent transport and mixing of waters between the proposed Project site and areas of the inner Harbor, inputs of copper or other pollutants at Berth 408 could affect water quality in other areas of the Port (see Chapter 4, Cumulative Analysis). Increased vessel traffic associated with the proposed Project would not affect TBT concentrations in Harbor waters because the VGP has a zero discharge standard for TBT and vessels using the proposed Project facilities are prohibited from using TBT-based hull paints.

Inadvertent or illegal discharges from vessels represent potential sources of contaminants to Harbor waters from the proposed Project operations. Discharges of polluted water or refuse directly to the Harbor are prohibited, and the Port Police are authorized to cite any vessel that is in violation of Port tariffs, including illegal discharges. The number or severity of illegal discharges, and corresponding changes to water and sediment quality, from increased vessel traffic cannot be quantified because the rate and chemical composition of illegal discharges from commercial vessels are unknown. There is no evidence that illegal discharges from ships presently are causing widespread problems in the Harbor. Based on results from the National Mussel Watch Program (O'Connor and Lauenstein 2006), contaminant levels in the Harbor have generally improved, as indicated by trends of decreasing concentrations of several metals (cadmium, selenium, mercury, and zinc) and TBT in sentinel mussels over the period from 1986 to 2003. These improvements occurred despite an overall increase in ship traffic. Thus, while it is reasonable to assume that increases in the frequency of illegal discharges would be proportional to the change in numbers of ship visits, there is no evidence to support this relationship. Further, it is reasonable to expect that vessel operators will comply with existing laws, regulations, and permit conditions designed to prevent illegal discharges. Regardless, assuming that illegal discharges from vessels at Berth 408 would occur, as a worst case scenario, the discharges would result in pollution or would be considered a nuisance, and this potential for water quality impacts would be increased relative to CEQA Baseline conditions at the proposed Project site.

As a condition of their lease, the project tenant would be required to conform to applicable requirements of the Non-Point Source (NPS) Pollution Control Program. The tenant also would be required to design all terminal facilities whose operations could result in the accidental release of



toxic or hazardous substances (including sewage and liquid waste facilities, solid and hazardous waste disposal facilities) in accordance with the state Non-Point Source Pollution Control Program administered by the SWRCB. As a performance standard, the measures selected and implemented would use the Best Available Technology that is economically achievable such that, at a minimum, relevant water quality criteria as outlined by the California Toxics Rule and the Basin Plan are maintained, or in cases where ambient water quality exceeds these criteria, maintained at or below ambient levels. The applicable measures would include:

Solid Waste Control - Properly dispose of solid wastes to limit entry of these wastes to surface waters;

Liquid Material Control - Provide and maintain the appropriate storage, transfer, containment, and disposal facilities for liquid materials; and

Petroleum Control - Reduce the amount of fuel and oil that leaks from container and support vessels.

The presence of pier pilings would cause some localized deposition of sediments beneath the wharf, and some bottom sediments in the vicinity of Berth 408 may be disturbed by turbulence from propeller wash. Resuspended sediments would settle back to the bottom, although some horizontal displacement by currents could occur. However, this would not promote erosion of the harbor bottom or excessive sedimentation near the proposed Project site

Residual impacts for upland spills and stormwater would be less than significant. Vessel discharges incidental to normal operations would be covered under the Vessel General Permit (VGP) that addresses 28 categories of vessel discharge types including hull leachate and underwater husbandry. Discharges, including hull paint leachate and underwater hull husbandry, in compliance with permit conditions would not violate applicable water quality standards. Thus impacts from vessel operations associated with the proposed Project would be considered less than significant under CEQA.

Spills or leaks that occur on land are expected to be contained and cleaned up before any impacts to surface water quality can occur. Spills from the pipeline are considered highly unlikely, and thus less than significant due to the very low likelihood of a pipeline failure occurring in a location where the oil could reach surface waters. Spills from vessels at Berth 408 would likely occur during offloading operations, but spill volumes would be small. However, any amount of oil spilled from project operations that reaches Harbor waters is likely to exceed the Basin Plan objective for oil and grease. Thus, oil spills directly to Harbor waters as a result of proposed Project operations would have a significant and unavoidable impact on water quality. The following measures are included in the proposed Project as conditions of approval and are subject to monitoring provisions for enforcement and compliance purposes. Beyond legal requirements, there are no available mitigations to eliminate in-water vessel spills and leaching of contaminants. These mitigations would substantially lessen impacts to water quality. Therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. Incorporation of these mitigation measures, however, would not reduce impacts to water quality below significance. Specific legal and technological considerations make infeasible additional mitigation measures or project alternatives, as explained below.

***MM WQ-1.2: Cleanup of Floating Materials Retained by Containment Boom.*** *All vessels at Berth 408 shall be surrounded by a spill containment boom prior to initiating unloading operations. Following unloading and before releasing the boom, the project tenant shall visually*

*inspect the water surface or the area encircled by the containment boom and recover and dispose any floating materials (e.g., trash) or petroleum sheen.*

***MM 4B-7: Increase Local Staffing of CDFG OSR Personnel.***

*Requires that the Port petition the state for increased local staffing of the OSPR to reduce the level of accidental spills at ship fuel docks.*

**Rationale for Finding**

Five comments were received in regards Impact WQ-1.2. The USEPA (USEPA 20 and 21) recommended additional Remotely Operated Mainline Block Valves to further prevent discharges into the harbor and establishing a Water Quality Fund. California State Lands Commission (CSLC-83) suggested an alternative to Mitigation measure 4B-7.T Coalition of a Safe Environment (CSE-49) recommended designing and installing an Ocean Water Purification System and the Northwest San Pedro Neighborhood Council (NWSPNC-7), recommended further Ballast Water management.

*Additional Remotely Operated Mainline Block Valves*

In regards to USEPA-20, additional Remotely Operated Mainline Block Valves would help further prevent spills as discussed below and therefore, this mitigation measure has not been added to the proposed Project. DOT 195.260(e) states that valves are required “On each side of a water crossing that is more than 100 feet (30 meters) wide from high-water mark to high-water mark unless the Administrator finds in a particular case that valves are not justified.” The project considered valves around the bridge crossings. In this case, it was decided by the design team that the additional valves were not justified because they would not reduce the spill volumes should a leak occur on the bridge. The reasoning was as follows:

The pipeline route elevation is relatively flat. The pipeline is buried a minimum of 4 feet below ground elevation. All the project bridge crossings will be the high points in their respective pipelines route segments. The maximum spill volume at the bridge crossings will be the volume of the pipe on the bridge. The spill volume would be unaffected by additional blocks valves around the bridge crossings.

In addition, the system is designed with leak detection capability. When a leak is detected the shipping pumps are shut down and the pipeline facility block valves are closed, so no additional crude oil is introduced in to the system.

*Water Quality Fund and Ballast Water Management*

In regards to USEPA-21 and NWSPNC-7, the SEIS/SEIR identifies all feasible mitigation measures to reduce or avoid the significant impacts to water quality that would result from oil spills attributable to the proposed Project. The proposed measure to fine parties responsible for oil spills would not effectively reduce or avoid those impacts to the environment, and is therefore not effective mitigation for implementation on the proposed Project pursuant to environmental review under CEQA or NEPA. Nevertheless, outside the context of CEQA/NEPA review of the proposed Project, the Port of Los Angeles is currently developing a Water Resources Action Plan (WRAP) in conjunction with the Port of Long Beach and involving stakeholder participation from a number of regulatory agencies and environmental groups. The WRAP would establish a comprehensive port-wide program to reduce impacts to water quality from a variety of sources including storm drain runoff, urban runoff, boat spills and dumping, and invasive species number of vessels entering Los Angeles Harbor by nearly 7 percent compared to the number of vessels that entered the Harbor during the CEQA Baseline year,

which would result in a small increase in the potential for non-native invasive species (NIS) to enter the Port via ballast water or attached to ship hulls. The Port does not believe it is feasible to conduct surveys over the harbor area that would allow for early detection of NIS organisms. In addition, with the exception of *Caulerpa*, we are unaware of any NIS that has been successfully eradicated once it has arrived in an ecosystem

#### *Ocean Water Purification System*

The comment received from CSE regarding an Ocean Purification System was specifically recommended to reduce potential impacts to Water Quality from atmospheric deposition. Section 3.14.2.2.7 of the SEIS/SEIR discusses atmospheric deposition as a source for contaminant loading to Port waters. As mentioned, regional as well as in-Port sources contribute to atmospheric deposition, although the relative contributions from individual sources are unknown. The Port's Enhanced Water Quality Sampling program (AMEC 2007) did not detect polycyclic aromatic hydrocarbons (PAHs), which are a typical component of atmospheric deposition, in waters of the Port. These results do not indicate that atmospheric deposition is causing significant impacts to existing water quality conditions within the Harbor. Regardless, as discussed in Section 3.2.2.2, "[t]hrough its CAAP, the Port will reduce air pollutants from its future operations, which will work towards the goal of reducing atmospheric deposition for purposes of water quality protection." There is no indication that water purification is needed as additional mitigation for the proposed Project.

#### *MM 4B-7*

Regarding CSLC-83, the Final SEIR has been revised to expand the discussion of impacts to water quality from vessel operations and to address impacts from invasive species and copper leaching from hull paints, as well as other vessel discharges covered by the Vessel General Permit. Regarding the mitigation measure, MM 4B-7 came from the Deep Draft SEIS/SEIR and therefore is required for this Supplemental EIS/Subsequent EIR (all MMs from the Deep Draft are required unless no longer applicable). The Port and USACE identified all feasible mitigation measures to reduce significant impacts on water quality, including 4B-7 as well as MM WQ-1.2 (see Draft SEIS/SEIR Section 3.14). Also, note that the Port did not quantify the benefit of petitioning the state according to MM 4B-7, and the significant water quality impact identified in the Draft SEIS/SEIR is also identified as unavoidable (i.e., significant after application of all feasible mitigation measures). The statement "No mitigation measures to reduce or avoid impacts were identified" in line 7 of Draft SEIS/SEIR page 3.14-77 has been deleted.

## **Cumulatively Considerable Impacts**

The State CEQA Guidelines (Section 15130) require an analysis of the project's contribution to significant and unavoidable cumulative impacts. Cumulative impacts include "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (State CEQA Guidelines, Section 15355).

The discussion below identifies cumulatively significant and unavoidable impacts. The Board has determined that certain proposed mitigation measures and/or alternatives that may reduce these impacts below significance are infeasible in light of specific economic, legal, social, technological, and other

considerations and, therefore, have not been incorporated into the Project. The evidence of such infeasibility is explained below.

Four comments on the Draft SEIS/SEIR were received in regards to Cumulative Impacts and the recent TraPac MOU from the PCAC Air Quality Subcommittee, the Central San Pedro Neighborhood Council, Kathleen Woodfield and John Miller and Melanie Jones and Peter Warren (PCAC AQ-19, CSPNC-14, KW/JM-19 and MJ/PW-9). The TraPac MOU was discussed in Section ES 6.5 of the Draft SEIS/SEIR. On December 6, 2007, the Port certified the Berth 136-147 [TraPac] Container Terminal EIR. The Berth 136-147 EIR was subsequently appealed to the Los Angeles City Council by a group of organizations and community members (the “TraPac Appellant Group [Appellant Group]”). On April 3, 2008, the Board of Harbor Commissioners approved a Memorandum of Understanding (MOU) with the Appellant Group establishing a Community Benefits Agreement and recommended the MOU be forwarded to the Los Angeles City Council for approval. As part of the MOU, the Port agreed to meet with the Appellant Group on the Pacific L.A. Marine Terminal LLC Crude Oil Terminal Draft SEIR to discuss potential project impacts and mitigation measures.

Under the MOU, the Port agreed to establish a Port Community Mitigation Trust Fund geared towards addressing the overall off-port impacts created by existing Port operations outside of the context of project-specific NEPA and/or CEQA documents. This fund includes, for example, approximately \$6 million for air filtration in schools and funding for an initial study of off-Port impacts on health and land use in Wilmington and San Pedro, as well as a more detailed subsequent study of off-Port impacts of existing Port operations, examining aesthetics, light and glare, traffic, public safety and effects of vibration, recreation, and cultural resources related to port impacts on harbor area communities. As part of the MOU, the Port would contribute \$0.15 per ton of crude oil received at the proposed Project up to an amount of approximately \$5 million. While the MOU is not NEPA, CEQA or environmental justice mitigation per se, it would have particular benefits for harbor area communities where disproportionate effects could occur. Nevertheless, the MOU does not alter the legal obligations of the lead agencies under NEPA or CEQA to disclose and evaluate mitigation measures to reduce or avoid significant impacts of the Project. Rather, through the MOU is geared towards addressing the existing overall off-port impacts created by Port operations outside of the context of project-specific NEPA and/or CEQA documents. Therefore, no revisions to the document are required by the MOU.

## **Air Quality**

### **Cumulative Impact AQ-1: Potential for Construction to Produce a Cumulatively Considerable Increase of a Criteria Pollutant for which the Project Region is in Nonattainment Under a National or State Ambient Air Quality Standard**

#### **Finding**

The emissions reductions from MM AQ-1 through MM AQ-12 would reduce construction emissions but, with the exception of SO<sub>x</sub> these reductions would not be sufficient to reduce the total construction emissions to below the significance criteria thresholds. Mitigated construction emissions under CEQA would exceed the VOC, CO, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> SCAQMD emission thresholds during Phase I construction. As a result, mitigated proposed Project construction emissions under CEQA would produce cumulatively considerable and unavoidable contributions to significant cumulative impacts on VOC, CO, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> pollutant levels. Mitigation measures imposed on the proposed Project would substantially reduce air emissions impacts, as discussed above with regard to project-

specific Impact AQ-1, and therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. Incorporation of these mitigation measures, however, would not reduce the contribution of the proposed Project to significant cumulative air quality below a level of cumulatively considerable. Specific technological considerations make infeasible additional mitigation measures or project alternatives, As discussed above with regard to project-specific Impact AQ-1.

### **Rationale for Finding**

Due to its substantial amount of emission sources and topographical/meteorological conditions that inhibit atmospheric dispersion, the SCAB is a “severe-17” nonattainment area for 8-hour O<sub>3</sub>, a “serious” nonattainment area for both CO and PM<sub>10</sub>, and a nonattainment area for PM<sub>2.5</sub> in regard to the National Ambient Air Quality Standards (NAAQS). The SCAB is in attainment of the NAAQS for SO<sub>2</sub>, NO<sub>2</sub>, and lead. The *2007 Air Quality Management Plan* (AQMP) predicts attainment of all NAAQS within the SCAB, including PM<sub>2.5</sub> by 2014 and O<sub>3</sub> by 2020. In regard to the California Ambient Air Quality Standards (CAAQS), the SCAB is presently in “extreme” nonattainment for O<sub>3</sub>, “severe” nonattainment for CO, and nonattainment for PM<sub>10</sub>. The SCAB is in attainment of the CAAQS for SO<sub>2</sub>, NO<sub>2</sub>, sulfates, and lead, and is unclassified for hydrogen sulfide and visibility reducing particles. These pollutant nonattainment conditions within the project region are therefore cumulatively significant. In the time period between 2008 and 2011, a number of large construction projects will occur at the two Ports and surrounding areas (see Table 4-1 in Chapter 4.0 of the SEIS/SEIR) that will overlap and contribute, along with the proposed Project, to significant cumulative construction impacts.

### **Cumulative Impact AQ-2: Potential for Construction to Produce Emissions that Exceed an Ambient Air Quality Standard or Substantially Contribute to an Existing or Projected Air Quality Standard Violation**

#### **Finding**

The emissions reductions from MM AQ-1 through MM AQ-12 would reduce construction emissions but, with the exception of SO<sub>x</sub> these reductions would not be sufficient to reduce the total construction emissions to below the significance criteria thresholds. Mitigated construction emissions under CEQA would exceed the VOC, CO, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> SCAQMD emission thresholds during Phase I construction. These effects are summarized in Table 3.2-13. As a result, mitigated proposed Project construction emissions under CEQA would produce cumulatively considerable and unavoidable contributions to significant cumulative impacts on VOC, CO, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> pollutant levels. Mitigation measures imposed on the proposed Project would substantially reduce air emissions impacts, as discussed above with regard to project-specific Impact AQ-2, and therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. Incorporation of these mitigation measures, however, would not reduce the contribution of the proposed Project to significant cumulative air quality impacts below a level of cumulatively considerable. Specific technological considerations make infeasible additional mitigation measures or project alternatives, as discussed above with regard to project-specific Impact AQ-2.

### **Rationale for Finding**

Due to its substantial amount of emission sources and topographical/meteorological conditions that inhibit atmospheric dispersion, the SCAB is a “severe-17” nonattainment area for 8-hour O<sub>3</sub>, a “serious” nonattainment area for both CO and PM<sub>10</sub>, and a nonattainment area for PM<sub>2.5</sub> in regard to the National Ambient Air Quality Standards (NAAQS). The SCAB is in attainment of the NAAQS for SO<sub>2</sub>, NO<sub>2</sub>, and lead. The *2007 Air Quality Management Plan* (AQMP) predicts attainment of all NAAQS within the SCAB, including PM<sub>2.5</sub> by 2014 and O<sub>3</sub> by 2020. In regard to the California Ambient Air Quality Standards (CAAQS), the SCAB is presently in “extreme” nonattainment for O<sub>3</sub>, “severe” nonattainment for CO, and nonattainment for PM<sub>10</sub>. The SCAB is in attainment of the CAAQS for SO<sub>2</sub>, NO<sub>2</sub>, sulfates, and lead, and is unclassified for hydrogen sulfide and visibility reducing particles. These pollutant nonattainment conditions within the project region are therefore cumulatively significant. In the time period between 2008 and 2011, a number of large construction projects will occur at the two Ports and surrounding areas (see Table 4-1 in Chapter 4.0 of the SEIS/SEIR) that will overlap and contribute, along with the proposed Project, to significant cumulative construction impacts.

### **Cumulative Impact AQ-3: Potential for Operation to Produce a Cumulatively Considerable Increase of a Criteria Pollutant for which the Project Region is in Nonattainment under a National or State Ambient Air Quality Standard**

#### **Finding**

MMs AQ-13 through AQ-21 would reduce operation phase emissions from the proposed Project. However, during a peak day of activity, mitigated Project operations would still produce emissions compared to the CEQA Baseline that exceed SCAQMD daily thresholds for all criteria pollutants (i.e., VOC, CO, NO<sub>x</sub>, SO<sub>x</sub>, PM, PM<sub>10</sub>, and PM<sub>2.5</sub>). Therefore, emissions from proposed Project operations with mitigation would produce cumulatively considerable contributions to significant cumulative impacts on VOC, CO, NO<sub>x</sub>, SO<sub>x</sub>, PM, PM<sub>10</sub>, and PM<sub>2.5</sub> pollutant levels under CEQA. Mitigation measures imposed on the proposed Project would substantially reduce air emissions impacts, as discussed above with regard to project-specific impact AQ-3, and therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. Incorporation of these mitigation measures, however, would not reduce the contribution of the proposed Project to significant cumulative air quality impacts below a level of cumulatively considerable. Specific technological considerations make infeasible additional mitigation measures or project alternatives, as discussed above with regard to project-specific Impact AQ-3.

#### **Rationale for Finding**

Due to its substantial amount of emission sources and topographical/meteorological conditions that inhibit atmospheric dispersion, the SCAB is a “severe-17” nonattainment area for 8-hour O<sub>3</sub>, a “serious” nonattainment area for both CO and PM<sub>10</sub>, and a nonattainment area for PM<sub>2.5</sub> in regard to the National Ambient Air Quality Standards (NAAQS). The SCAB is in attainment of the NAAQS for SO<sub>2</sub>, NO<sub>2</sub>, and lead. The *2007 Air Quality Management Plan* (AQMP) predicts attainment of all NAAQS within the SCAB, including PM<sub>2.5</sub> by 2014 and O<sub>3</sub> by 2020. In regard to the California Ambient Air Quality Standards (CAAQS), the SCAB is presently in “extreme” nonattainment for O<sub>3</sub>, “severe” nonattainment for CO, and nonattainment for PM<sub>10</sub>. The SCAB is in attainment of the CAAQS for SO<sub>2</sub>, NO<sub>2</sub>, sulfates, and lead, and is unclassified for hydrogen sulfide and visibility reducing particles. These pollutant nonattainment conditions within the project region are therefore cumulatively significant. In the time period between 2008 and 2011, a number of projects will occur

at the two Ports and surrounding areas (see Table 4-1 in Chapter 4.0 of the SEIS/SEIR) that will overlap and contribute, along with the proposed Project, to significant cumulative operational impacts.

#### **Cumulative Impact AQ-4: Potential for Operation to Produce Emissions that Exceed an Ambient Air Quality Standard or Substantially Contribute to an Existing or Projected Air Quality Standard Violation**

##### **Finding**

With Mitigation Measure (MM) AQ-13 through MM AQ-21, impacts from Project operation would still exceed the SCAQMD annual NO<sub>2</sub> ambient thresholds. These effects are summarized in Table 3.2-27. As a result, emissions from Project operation would produce cumulatively considerable and unavoidable contributions to cumulatively significant ambient NO<sub>2</sub> levels under CEQA. Mitigation measures imposed on the proposed Project would substantially reduce air emissions impacts, as discussed above with regard to project-specific Impact AQ-4, and therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. Incorporation of these mitigation measures, however, would not reduce the contribution of the proposed Project to significant cumulative air quality impacts below a level of cumulatively considerable. Specific technological considerations make infeasible additional mitigation measures or project alternatives, as discussed above with regard to project-specific Impact AQ-4.

##### **Rationale for Finding**

Due to its substantial amount of emission sources and topographical/meteorological conditions that inhibit atmospheric dispersion, the SCAB is a “severe-17” nonattainment area for 8-hour O<sub>3</sub>, a “serious” nonattainment area for both CO and PM<sub>10</sub>, and a nonattainment area for PM<sub>2.5</sub> in regard to the National Ambient Air Quality Standards (NAAQS). The SCAB is in attainment of the NAAQS for SO<sub>2</sub>, NO<sub>2</sub>, and lead. The *2007 Air Quality Management Plan* (AQMP) predicts attainment of all NAAQS within the SCAB, including PM<sub>2.5</sub> by 2014 and O<sub>3</sub> by 2020. In regard to the California Ambient Air Quality Standards (CAAQS), the SCAB is presently in “extreme” nonattainment for O<sub>3</sub>, “severe” nonattainment for CO, and nonattainment for PM<sub>10</sub>. The SCAB is in attainment of the CAAQS for SO<sub>2</sub>, NO<sub>2</sub>, sulfates, and lead, and is unclassified for hydrogen sulfide and visibility reducing particles. These pollutant nonattainment conditions within the project region are therefore cumulatively significant. In the time period between 2008 and 2011, a number of projects will occur at the two Ports and surrounding areas (see Table 4-1 in Chapter 4.0 of the SEIS/SEIR) that will overlap and contribute, along with the proposed Project, to significant cumulative operational impacts.

#### **Cumulative Impact AQ-5: Potential for Operation to Create Objectionable Odors at the Nearest Sensitive Receptor**

##### **Finding**

Operation of the proposed Project would increase air pollutants due to the combustion of diesel fuel. Some individuals may sense that emissions from the combustion of diesel fuel have an objectionable odor, although it is difficult to quantify the odorous impacts of these emissions to the public. While the mobile nature of the Project vessel emission sources would help to disperse the emissions and the distance between Project emission sources and the nearest residents in San Pedro and Wilmington should be far enough to allow for adequate dispersion of these emissions to less than significant odor levels from a project-specific level, these odors would combine with odors from other past, present, and future projects. As a result, when combined with other projects, the proposed Project would have the potential to produce objectionable odors and for such odors to affect a substantial number of people. Operation of the Project would increase diesel emissions within the Port. Any concurrent emissions-generating activity that occurs in the vicinity of the Project site would add additional air emission burdens to cumulative impacts. As a result, Project operations would result in cumulatively considerable contributions to cumulatively significant odor impacts within the Project region under CEQA. Therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. Incorporation of these mitigation measures, however, would not reduce the contribution of the proposed Project to significant cumulative impacts below a level of cumulatively considerable. Specific technological considerations make infeasible additional mitigation measures or project alternatives.

### **Rationale for Finding**

There are temporary and semi-permanent sources of odors within the Port region, including mobile sources powered by diesel and residual fuels and stationary industrial sources, such as petroleum storage tanks. Some individuals may sense that diesel combustion emissions are objectionable in nature, although quantifying the odorous impacts of these emissions to the public is difficult. Due to the large number of sources within the Port that emit diesel emissions and the proximity of residents (sensitive receptors) adjacent to Port operations, odorous emissions in the Project region are a cumulatively significant to which the proposed Project would make a cumulatively considerable contribution.

### **Cumulative Impact AQ-6: Exposure of Receptors to Significant Levels of Toxic Air Contaminants (TACs)**

Cumulative Impact AQ-6 assesses the potential of the proposed Project construction and operation along with other cumulative projects to produce TACs that exceed acceptable public health criteria.

### **Finding**

With mitigation, proposed Project construction and operational emissions of TACs would result in a cumulatively considerable contribution to cancer risks at off-site residential, occupational, sensitive, and student receptors under CEQA (SEIR Table 3.2-29). In terms of non-cancer effects, proposed Project TAC emissions with mitigation would result in a cumulatively considerable contribution to chronic and acute non-cancer effects to off-site residential, occupational, sensitive, and student receptors, under CEQA (Table 3.2-29).

The *Multiple Air Toxics Exposure Study* (MATES-II) conducted by the South Coast Air Quality Management District in 2000 estimated the existing cancer risk from toxic air contaminants in the South Coast Air Basin to be 1,400 in a million (SCAQMD 2000). In the *Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach*, the CARB estimates that



elevated levels of cancer risks due to operational emissions from the Ports of Los Angeles and Long Beach occur within and in proximity to the two Ports (CARB 2006). Based on this information, airborne cancer and non-cancer levels within the project region are therefore cumulatively significant.

Project operations would make a cumulatively considerable contributions to cumulatively significant TAC impacts within the Project region under CEQA. Mitigation measures imposed on the proposed Project would substantially reduce TAC impacts, as discussed above with regard to project-specific Impact AQ-6, and therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the SEIR. Incorporation of these mitigation measures, however, would not reduce impacts to cumulative air quality below significance. As discussed above with regard to project-specific Impact AQ-6, specific technological considerations make infeasible additional mitigation measures or project alternatives.

### **Rationale for Finding**

The Port has approved port-wide air pollution control measures through their San Pedro Bay Ports Clean Air Action Plan (CAAP) (LAHD et al. 2006). Implementation of these measures will reduce the health risk impacts from the Project and future projects at the Port. Currently adopted regulations and future rules proposed by the ARB and USEPA also will further reduce air emissions and associated cumulative health impacts from Port operations. However, because future proposed measures (other than CAAP measures) and rules have not been adopted, they have not been accounted for in the emission calculations or health risk assessment for the Project. Therefore, it is unknown at this time how these future measures would reduce cumulative health risk impacts within the Port project area.

### **Cumulative Impact AQ-8: Potential Contribution to Global Climate Change**

#### **Finding**

As shown in Tables 3.2-34 and 3.2-37 of the SEIR, with mitigation, the proposed Project would produce higher GHG emissions in each future project year, compared to CEQA baseline levels. The way in which CO<sub>2</sub> emissions associated with the proposed Project might or might not influence actual physical effects of global climate change cannot be determined. Nevertheless, as discussed in Chapter 3.2, existing GHG levels are projected to result in changes to the world's climate, with significant warming seen in some areas, which, in turn, will have numerous indirect effects on the environment and humans.

Project GHG emissions would contribute to existing levels, and therefore, would contribute to the causes of global climate change. Considering Impact AQ-8, which states that any increase in GHG emissions over the CEQA Baseline is significant, emissions from construction and operation of the proposed Project would produce a cumulatively considerable and unavoidable contribution to cumulatively significant global climate change under CEQA. Mitigation measures imposed on the proposed Project would substantially reduce GHG impacts, as discussed above with regard to project-specific Impact AQ-8, and therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. Incorporation of these mitigation measures, however, would not reduce the contribution of the proposed Project to significant cumulative impacts to air quality below a level of cumulatively considerable. Specific technological considerations make infeasible additional mitigation measures or project alternatives, as discussed above with regard to project-specific Impact AQ-8.

### **Rationale for Finding**

The cumulative increase in GHG concentrations in the atmosphere has resulted in and will continue to result in increases in global average temperature and associated shifts in climatic and environmental conditions. Multiple adverse environmental effects are attributable to global climate change, such as sea level rise, increased incidence and intensity of severe weather events (e.g., heavy rainfall, droughts), shrinking glaciers, thawing permafrost, shifts in plant and animal ranges, and extirpation or extinction of plant and wildlife species. These and other effects would have environmental, economic, and social consequences on a global scale. Given the significant adverse environmental effects linked to global climate change induced by GHGs, the emission of GHGs is considered a significant cumulative impact. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors (California Energy Commission 2006a). Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth.

### **Cumulative Impact BIO-1: Cumulative Impacts to Special Status Species**

Cumulative Impact BIO-1 represents the potential of the proposed Project along with other cumulative projects to adversely affect state- and federally-listed endangered, threatened, or Species of Special Concern, or to result in the loss of critical habitat. No critical habitat for any federally-listed species is present in the Harbor, and thus, no cumulative impacts to critical habitat would occur

### **Finding**

As discussed in Section 3.3.4.3.1 (Impact BIO-1.1), construction activities for the proposed Project would have significant impacts, prior to mitigation, on the California least tern at their nesting site on Pier 400 (SEA), burrowing owl (if nesting), and black skimmer (if nesting) and less than significant impacts on other special status species under CEQA. Construction activities at Tank Farm Site 1 could result in a loss of individuals or nesting habitat for the burrowing owl and black skimmer, and these effects would result in a cumulatively significant impact. Construction and operation of Tank Farm Site 1 could have significant impacts, prior to mitigation, on the California least tern at their nesting site (SEA). At least a portion of the disturbance to the nesting area would be associated with noise from construction of the proposed Project, but impacts would be less than significant; however, no noise impacts from other related projects were identified that would contribute to any cumulative noise impact on the least tern at the nesting area and, therefore, the proposed Project would have a

less than cumulatively considerable contribution to noise that would affect the least terns at their SEA. With the other impacts noted above, however, the proposed Project would have a cumulatively considerable contribution to a cumulatively significant impact for the California least tern at their SEA, under CEQA.

While the proposed Project would not result in significant impacts to marine mammals through vessel strikes, the increase in vessel traffic compared to the CEQA Baseline would increase the potential for a project-related whale strike, including to blue whales. Therefore, the proposed Project would have the potential to result in a cumulatively considerable contribution to the significant cumulative impact to the blue whale under CEQA, since overall increases in vessel traffic along the southern California coast has contributed to marine mammal mortalities. Therefore, with the contribution of the proposed Project to Impact BIO-1 in regards to marine mammals, the potential contribution to whale mortality from vessel strikes would be cumulatively considerable under CEQA.

In addition, a small (e.g., up to 238 barrel [bbl]) or larger oil spill within the Harbor, even though associated with a low probability of occurrence, could result in significant and unavoidable impacts to the California least tern and the California brown pelican. Therefore, impacts of the proposed Project would make a cumulatively considerable contribution to the significant and unavoidable cumulative impacts of oil spills for the least tern and brown pelican. Effects of oil spills on other special status species would be less than significant and would not result in a considerable contribution to cumulative impacts.

Mitigation measures imposed on the proposed Project would substantially reduce special species impacts, as discussed above with regard to project-specific Impact BIO-1, and therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the SEIR. Incorporation of these mitigation measures, however, would not reduce the contribution of the proposed Project to significant cumulative impacts below a level of cumulatively considerable. Specific technological considerations make infeasible additional mitigation measures or project alternatives, as discussed with regard to project-specific Impact BIO-1, above.

### **Rationale for Finding**

In-water construction activities, and particularly pile driving, would result in underwater sound pressure waves that could affect marine mammals and fish species. The locations of these activities (e.g., pile and sheetpile driving) are in areas where few marine mammals occur, projects in close proximity are not expected to occur concurrently, and the marine mammals would avoid the disturbance area by moving to other areas within the Harbor. For fish species, results from a study in Canada indicated that driving closed-end steel piles had peak sound pressures approaching 150 kPa and resulted in mortality of several species of fish "around the pile" (Vagle 2003). Hastings and Popper (2005) reported no statistically significant mortality (i.e., different than control groups) for sound exposure levels (SELs) as high as 181 dB (re 1  $\mu$ Pa<sup>2</sup>-s) for surfperch and SELs as high as 182 dB (re 1  $\mu$ Pa<sup>2</sup>-s) for steelhead. Since sound pressure levels generated by various projects in the Harbor would be lower than described above and would not be expected to cause fish mortality, cumulative impacts of underwater sound from pile driving on marine mammals and fish species would be less than significant.

Oil spills from tankers in transit through the Harbor or during offloading at liquid bulk terminals that enter Harbor waters could adversely affect special status birds that forage or rest on the water surface, such as the California least tern, California brown pelican, and black skimmer. The potential for impacts to these species would depend primarily on the location and size of the spill. Small spills would likely be contained and rapidly cleaned up with little or no impact to these birds. However, a small spill into the Cabrillo Shallow Water Habitat during the least tern nesting season could have significant impacts to the population. A moderate to large spill could also have significant impacts to the least tern if it occurred during their nesting season and reached any of their primary foraging areas. Such a spill would also have the potential to have significant impacts to the California brown pelican all year. Cumulative impacts to the least tern and brown pelican would be unlikely but significant and unavoidable if they occurred. Cumulative impacts of oil spills to other special status species, including seals and sea lions in the Harbor, would be less than significant because the number of individuals affected would be small relative to their regional population size.

### **Cumulative Impact BIO-2: Cumulative Alteration or Reduction of Natural Habitats, Special Aquatic Sites, or Plant Communities**

Cumulative Impact BIO-2 represents the potential of the proposed Project along with other cumulative projects to substantially reduce or alter state-, federally-, or locally-designated natural habitats, special aquatic sites, or plant communities, including wetlands.

#### **Finding**

No mitigation is required for the less than cumulatively considerable effects of construction and operations disturbances to EFH and natural habitats other than oil spill effects on eelgrass beds, and residual cumulative impacts would not be considerable under CEQA. Mitigation measures described in Section 3.12 (MM RISK-2.1a and MM RISK-2.1b) would apply to reduce the probability of an oil spill; however, no mitigation measures can eliminate the risk entirely. Thus, residual cumulative impacts related to the potential for oil spills to affect eelgrass beds would be cumulatively considerable and unavoidable under CEQA. Mitigation measures imposed on the proposed Project would substantially reduce habitat impacts, as discussed above with regard to project-specific Impact BIO-2, and therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. Incorporation of these mitigation measures, however, would not reduce the contribution of the proposed Project to significant cumulative impacts below a level of cumulatively considerable. Specific technological considerations make infeasible additional mitigation measures or project alternatives, as discussed with regard to project-specific Impact BIO-2, above.

#### **Rationale for Finding**

Essential Fish Habitat (EFH). EFH has been and will be lost due to past, present, and future landfill projects in the Harbor. EFH protection requirements began in 1996, and thus, only apply to projects since that time. The projects in Table 4-1 that could result in a loss of EFH are Pier 400 (#1), Berths 136-147 Marine Terminal (#2), Channel Deepening (#4), Berths 97-109 (#15), Middle Harbor Terminal redevelopment (#69), Piers G & J (#70), and Pier T (#73). The Pier S Marine Terminal (#74) project could alter EFH through Back Channel safety improvements, and the West Basin Installation Restoration Site 7 Dredging Project (#80) could alter EFH through dredging. The losses since 1996 include fill for the Pier 400 project and part of the Channel Deepening project. These impacts were significant but mitigable under CEQA, and the use of mitigation bank credits for the marine habitat loss impacts also offset the losses of EFH. Impacts of fill for the future projects would also be offset by use of mitigation credits. Temporary disturbances within EFH also would occur

during in-water construction activities from cumulative projects San Pedro Waterfront (#3), Channel Deepening (#4), Cabrillo Way Marina (#5), Berths 226-236 Improvements (#7), Consolidated Slip Restoration (#14), Berths 97-109 (#15), Berths 212-214 (#25), Berths 121-131 (#29), Middle Harbor Terminal Redevelopment (#69), Piers G & J (#70), Pier T (#73), Pier S (#74), West Basin Installation Restoration Site 7 Dredging Project (#80), and Sound Energy Solutions (#76). These disturbances in the Harbor occur at specific locations that are scattered in space and time within the Harbor and would not likely cause a significant impact to EFH. Increased vessel traffic and runoff from on-land construction and operations resulting from the cumulative projects would not result in a loss of EFH nor would these activities substantially degrade this habitat. Thus, cumulative impacts to EFH would be less than significant.

Natural Habitats. Natural habitats, special aquatic sites (e.g., eelgrass beds, mudflats), and plant communities (wetlands) have a limited distribution and abundance in the Harbor. The 40-acre (16-ha) Pier 300 expansion project caused a loss of eelgrass beds that was mitigated as part of the Pier 300 Project. The Southwest Slip fill in the West Basin completed as part of the Channel Deepening Project resulted in a small loss of saltmarsh that was also mitigated. Prior to agreements to preserve natural habitats such as mitigation credit systems, losses of eelgrass, mudflats, and saltmarsh from early landfill projects were not documented but were likely to have occurred due to the physical changes to the Port. Therefore, cumulative impacts of construction activities are considered significant. Oil spills from tankers in the Harbor would have the potential to affect eelgrass beds at Cabrillo Beach and the Pier 300 Shallow Water Habitat, mudflats, and the Cabrillo saltmarsh under a worst case scenario. Cumulative oil spill impacts would be short term, significant, and unavoidable for eelgrass beds and other natural habitats.

#### **Cumulative Impact BIO-4: Cumulative Disruption of Local Biological Communities**

Cumulative Impact BIO-4 represents the potential of the proposed Project along with other projects to cause a cumulatively substantial disruption of local biological communities (e.g., from the introduction of noise, light, or invasive species).

#### **Finding**

No mitigation measures are required for the proposed Project's less than cumulatively considerable contribution to impacts on marine communities from wharf construction and from site runoff during construction and operations, or on terrestrial communities from construction and operation of the proposed Project. MM BIO-1.1g and MM BIO-1.1h would reduce impacts to nesting birds at Tank Farm Site 1 to less than significant.

Although ballast water regulations reduce the potential for introduction of invasive species, no mitigation measures are currently available to prevent introduction of these species. Therefore, the proposed Project's contribution to the significant cumulative impacts of oil spills and introduction of invasive species would be considered cumulatively considerable and unavoidable under CEQA.

Standard spill prevention plans and measures already required for such facilities, as well as MM RISK-2.1a and MM RISK-2.1b, would reduce the potential for oil spills to the extent feasible, and no mitigation measures are available to reduce impacts further. MM BIO-1.2c would reduce but not eliminate the potential for impacts of oil spills in the Harbor to marine birds. Under CEQA, the proposed Project would have the potential to make a cumulatively considerable contribution to cumulatively significant impacts to marine birds, such as gulls, and intertidal invertebrate communities from accidental oil spills directly into Harbor waters and to marine birds in offshore waters. Mitigation measures imposed on the proposed Project would substantially reduce biological community impacts, as discussed above with regard to project-specific Impact BIO-4, and therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the Final SEIR. Incorporation of these mitigation measures, however, would not reduce the contribution of the proposed Project to significant cumulative impacts below a level of cumulatively considerable. Specific technological considerations make infeasible additional mitigation measures or project alternatives, as explained above with regard to project-specific Impact BIO-4.

### **Rationale for Finding**

*Wharf Work.* Driving piles for construction of Berth 408 would temporarily disturb benthic habitat in a small portion of the Outer Harbor adjacent to Pier 400 and would cause sound pressure waves at intervals as each pile is driven. Placement of rock at the base of the piles would convert a small amount (0.1 acre, 0.04 ha) of soft bottom to hard substrate habitat. Recolonization of disturbed marine environments and colonization of new rock and piles begins rapidly. Effects of sound pressure waves would be of short duration and would not be additive to effects of other cumulative projects due to the distance and intervening land masses between the proposed Project and other cumulative projects with pile driving that could occur at the same time. The minor proposed Project effects would not result in a cumulatively considerable contribution to a significant cumulative impact under CEQA.

*Backland Construction and Operations.* Runoff from temporary disturbances on land during construction of the proposed Project Marine Terminal, tank farms, and pipelines would add to the cumulative amount of construction runoff from all other projects in the Harbor that are being constructed concurrently with the proposed Project. Construction activities are closely regulated, and runoff of pollutants in quantities that could adversely affect marine biota is not likely to occur. Furthermore, runoff from the proposed Project and most of the cumulative projects would not occur simultaneously but rather would be events scattered over time so that total runoff to harbor waters would be dispersed, both in frequency and location. Construction of the proposed Project would result in less than significant impacts on local marine biological communities through runoff under CEQA because runoff control measures, as specified in a SWPPP, would be implemented and maintained as required in project permits, and the small amounts of pollutants that could pass the BMPs would not substantially affect marine organisms in Harbor waters and on hard substrate due to expected low concentrations, relative to ambient conditions. The minor proposed Project effects would not result in a cumulatively considerable contribution to a significant cumulative impact.

Construction and operation of the proposed Project would have minimal effects on terrestrial habitats in an existing industrial area that would not disrupt local biological communities. At Tank Farm Site 1, however, Caspian and elegant terns have nested in the past and could nest there again prior to proposed Project construction if conditions were suitable and the terns were present in the area. In a worst case, if these or other birds were nesting as construction begins, impacts to nesting birds would be significant but feasibly mitigated. Construction activities at Tank Farm Site 1 could result in disruption of bird nesting, but these effects would not contribute to cumulative impacts as none were

identified for the cumulative projects. Construction and operation of the proposed Project would have less than significant impacts on other terrestrial biological communities under CEQA because the species present are predominantly non-native and/or are adapted to the industrial area. The minor proposed Project effects would not result in a cumulatively considerable contribution to a significant cumulative impact.

*Vessel Traffic.* The small increase in vessel traffic in the Harbor (less than 7 percent compared to the CEQA Baseline) caused by the proposed Project would add to the cumulative potential for introduction of exotic species. Many exotic species have already been introduced into the Harbor, and many of these introductions occurred prior to implementation of ballast water regulations. These regulations would reduce the potential for introduction of non-native species, including from project-related vessels. Furthermore, oil tankers unloading at Berth 408 would be taking on ballast water and not discharging it. However, exotic species from vessel hulls could still be introduced into the Harbor. Proposed Project impacts relative to the introduction of non-native species have the potential to be significant prior to mitigation, and effects of the proposed Project could make a cumulatively considerable contribution to the significant cumulative impact under CEQA.

The amount of chemicals in Harbor waters from leaching of antifouling paints on proposed Project vessel hulls would not increase the concentration of chemicals toxic to marine biota to a level that would substantially disrupt local communities. The minor proposed Project effects would not result in a cumulatively considerable contribution to a significant cumulative impact on local biological communities.

*Oil Spills.* The frequency of oil spills from proposed Project tankers in offshore waters while approaching the Port, inside the Port while in transit to Berth 408, or while offloading oil at Berth 408 would be low to remote. Spills from MGO barges could occur during transit from existing terminals in the Harbor to Berth 408 and while unloading at Berth 408. The only pipeline spills likely to reach Harbor waters would be from the pipelines over Dominguez Channel and over the Pier 400 causeway gap. The proposed Project would have the potential for significant impacts, prior to mitigation, to marine birds, such as gulls, and intertidal invertebrate communities from accidental oil spills directly into Harbor waters and to marine birds in offshore waters. Therefore, effects of the proposed Project would make a cumulatively considerable contribution to the significant cumulative impact.

Oil spills at the tank farm facilities would be within bermed containment areas that have little to no biological resources present, and spills from most of the pipelines would be under ground with no impacts to terrestrial biological resources. The negligible proposed Project effects would not result in a cumulatively considerable contribution to a significant cumulative impact.

## **Cumulative Impact GEO-1: Fault Rupture, Seismic Ground Shaking, Liquefaction, or Other Seismically Induced Ground Failure**

### **Finding**

Southern California is recognized as one of the most seismically active areas in the United States. The region has been subjected to at least 52 major earthquakes (i.e., of magnitude 6 or greater) since 1796. Earthquakes of magnitude 7.8 or greater occur at the rate of about two or three per 1,000 years, corresponding to a 6 to 9 percent probability in 30 years. Therefore, it is reasonable to expect a strong ground motion seismic event during the lifetime of any proposed project in the region.

Ground motion in the region is generally the result of sudden movements of large blocks of the earth's crust along faults. Numerous active faults in the Los Angeles region are capable of generating earthquake-related hazards, particularly in the harbor area, where the Palos Verdes Fault is present and hydraulic and alluvial fill are pervasive. Also noteworthy, due to its proximity to the site, is the Newport-Inglewood Fault, which has generated earthquakes of magnitudes ranging from 4.7 to 6.3 Richter scale (LAHD 1991a). Large events could occur on more distant faults in the general area, but the effects at the cumulative geographic scope would be reduced due to the greater distance.

Seismic groundshaking is capable of providing the mechanism for liquefaction, usually in fine-grained, loose to medium dense, saturated sands and silts. The effects of liquefaction may result in structural collapse if total and/or differential settlement of structures occurs on liquefiable soils.

The Port of Los Angeles uses a combination of probabilistic and deterministic seismic hazard assessment for seismic design prior to any construction projects. Structures and infrastructure planned for areas with high liquefaction potential must have installation or improvements comply with regulations to ensure proper construction and consideration for associated hazards.

However, even with incorporation of modern construction engineering and safety standards, no mitigation is available that would reduce impacts to less than cumulatively considerable in the event of a major earthquake. Therefore, the proposed Project would result in a cumulatively considerable and unavoidable impact. The Board hereby finds that specific technological considerations make infeasible additional mitigation measures or project alternatives, which would reduce these impacts to less-than-significant levels, as explained above, with regard to project-specific Impact GEO-1.

### **Rationale for Finding**

Past, present, and reasonably foreseeable future projects (and the proposed Project) would not change the risk of seismic ground shaking. However, past projects have resulted in the backfilling of natural drainages at Port of Los Angeles berths with various undocumented fill materials. In addition, dredged materials from the harbor area were spread across lower Wilmington from 1905 until 1910 or 1911 (Ludwig 1927). In combination with natural soil and groundwater conditions in the area (i.e., unconsolidated, soft, and saturated natural alluvial deposits and naturally occurring shallow groundwater), backfilling of natural drainages and spreading of dredged materials associated with past development at the Port has resulted in conditions with increased potential for liquefaction following seismic ground shaking.

In addition, past development has increased the amount of infrastructure, structural improvements, and the number of people working onsite in the POLA/POLB Harbor area (i.e., the cumulative geographic scope). This past development has placed commercial, industrial and residential structures and their occupants in areas that are susceptible to seismic ground shaking. Thus, these developments have had the effect of increasing the potential for seismic ground shaking to result in damage to people and property.

All of the present and reasonably foreseeable future projects listed in Table 4-1 in Chapter 4.0 of the SEIS/SEIR, with the exception of the Channel Deepening Project (#4) and the Artificial Reef Project (#6), as these do not involve existing or proposed structural engineering or onsite personnel, would also result in increased infrastructure, structure, and number of people working onsite in the cumulative geographic scope.

### **Cumulative Impact GEO-2: Tsunamis or Seiches**



Cumulative Impact Geo-2 addresses the degree to which the proposed Project, along with other cumulative projects, exposes people and structures to substantial risk from local or distant tsunamis or seiches.

## **Finding**

The Board hereby finds that changes or alterations have been incorporated into the Project, which avoid or substantially lessen the significant environmental effect as identified in the Final SEIR. MM GEO-1 has been added to the Project to reduce impacts. However, even with incorporation of emergency planning, substantial damage and/or injury could occur in the event of a tsunami or seiche. No mitigation is available that would reduce impacts to less than cumulatively significant, or the contribution of the proposed Project to less than cumulatively considerable, in the event of a major tsunami. Therefore, the proposed Project would result in a cumulatively considerable and unavoidable impact, and the Board finds that specific technological considerations make infeasible additional mitigation measures or project alternatives, as explained above with regard to project-specific Impact GEO-2.

## **Rationale for Finding**

Tsunamis are a relatively common natural hazard, although most of the events are small in amplitude and not particularly damaging. As has been shown historically, the potential loss of human life following a tsunami or seiche can be great if a large submarine earthquake or landslide occurs in a populated area. As discussed in Chapter 3.5.2.1.4, abrupt sea level changes associated with tsunamis in the past had a great impact on human life. Tsunamis also have reportedly caused damage to moored vessels within the outer portions of the Los Angeles Harbor. Gasoline from damaged boats have caused a major spill in the Harbor waters and created a fire hazard following a seiche. Currents of up to 8 knots and a 6-ft (1.8-m) rise of water in a few minutes have been observed in the West Basin.

For on-site personnel, the risk of tsunami or seiches is a part of any ocean-shore interface, and hence personnel working in the cumulative effects area cannot avoid some risk of exposure. Similarly, berth infrastructure, cargo/containers, and tanker vessels would be subject to some risk of damage as well. Designing new facilities based on existing building codes may not prevent substantial damage to structures from coastal flooding.

Past, present, and reasonably foreseeable future projects (and the proposed Project) would not change the risk of tsunamis or seiches. However, past projects have resulted in the backfilling of natural drainages and creation of new low-lying land areas, which are subject to inundation by tsunamis or seiches. In addition, past development has increased the amount of infrastructure, structural improvements, and the number of people working onsite in the POLA/POLB Harbor area. This past development has placed commercial and industrial structures and their occupants in areas that are susceptible to tsunamis and seiches. Thus, these developments have had the effect of increasing the potential for tsunamis and seiches to result in damage to people and property.

All of the present and reasonably foreseeable future projects listed in Table 4-1 in Chapter 4.0 of the SEIS/SEIR, with the exception of the Channel Deepening Project (#4) and the Artificial Reef Project (#6), as these do not involve existing or proposed structural engineering or onsite personnel, would also result in

increased infrastructure, structure, and number of people working onsite in the cumulative geographic scope.

**Cumulative Impact GW-3: Cumulative changes to the rate or direction of movement of existing contaminants; expansion of the area affected by contaminants; or increased level of groundwater contamination, which would increase the risk of harm to humans.**

### **Finding**

Mitigation measures imposed on the proposed Project would substantially reduce groundwater contamination impacts, as discussed above with regard to project-specific Impact GW-3, and therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the SEIR. Incorporation of these mitigation measures, however, would not reduce the contribution of the proposed Project to significant cumulative groundwater contamination impacts below a level of cumulatively considerable. Specific technological considerations make infeasible additional mitigation measures or project alternatives, as explained above with regard to project-specific Impact GW-3.

### **Rationale for Finding**

The cumulative geographic scope with respect to potential movement or expansion of contamination would be the aerial extent of the semi-perched aquifer and underlying Gage Aquifer, which underlie much of the coastal area of southern Los Angeles and Long Beach, as groundwater contamination can spread over relatively large areas as a result of past spills. Past projects on the proposed Project site, as discussed in Section 3.7.2.3 and summarized in Table 3.7-1, have contributed to soil and groundwater contamination. These contaminated sites may have contributed to movement of existing groundwater contamination, as a result of Project-related dewatering wells, or cross-contamination of the underlying aquifer as a result of HDD operations. Similarly, past projects that overlie the semi-perched aquifer and underlying Gage Aquifer, within the coastal area of southern Los Angeles and Long Beach, have contributed to soil and groundwater contamination as a result of spills of petroleum products and hazardous substances. Therefore, impacts of past, present, and reasonably foreseeable future projects are considered cumulatively significant, under CEQA.

The rate or direction of contaminant movement along Pipeline Segment 3 South (as defined in Section 3.7) could locally change as a result of possible dewatering operations during trenching at the southern end of the pipeline segment. A dewatering well placed within the NAPL plume would draw the NAPL towards the well, thus locally changing the direction and/or rate of movement of existing contaminants. In addition, HDD operations through contaminated groundwater of the semi-perched aquifer, most notably along Pipeline Segment 3 South, could result in cross-contamination of the underlying Gage Aquifer. Therefore, impacts are cumulatively considerable and unavoidable.

Implementing **MM GW-2(g): Proper Discharge of Contaminated Dewatering Effluent**, would apply to the proposed Project's contribution. This measure, described in more detail in section 3.7.4.3.1.1, states that any project-related dewatering activities shall either discharge into the sanitary sewer, under permit with the City of Los Angeles Sanitation Bureau, or comply with the NPDES permit regulations and an associated SWPPP regarding discharge into storm drains and/or directly into harbor waters. Such permit requirements typically include on-site treatment to remove pollutants prior to discharge.

Alternatively, the water shall be temporarily stored onsite in holding tanks, pending off-site disposal at a disposal facility approved by the LARWQCB. A NPDES-mandated SWPPP shall include measures ensuring that potential pollutant-contaminated waters encountered during excavation would be isolated and collected for transportation to a hazardous waste treatment facility prior to their discharge into the storm drain system. This measure would contribute to reducing groundwater quality impacts. However, even with implementation of this NPDES-mandated effluent disposal protocol, improper releases of contaminated groundwater cannot be entirely eliminated and the contribution of the Project to risk of spreading contamination.

### **Cumulative Impact NOI-1: Construction Noise**

Cumulative Impact NOI-1 represents the potential of construction activities of the proposed project along with other cumulative projects to cause a substantial increase in ambient noise levels at sensitive receivers within the cumulative geographic scope.

#### **Finding**

Mitigation measures imposed on the proposed Project would substantially reduce construction noise impacts, as discussed above with regard to project-specific Impact NOI-1, and therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the SEIR. Incorporation of these mitigation measures, however, would not reduce the contribution of the proposed Project to significant cumulative construction noise impacts below a level of cumulatively considerable. Specific technological considerations make infeasible additional mitigation measures or project alternatives, as explained above with regard to project-specific Impact NOI-1.

#### **Rationale for Findings**

The list of related and cumulative projects was reviewed to determine if construction activities associated with any of these projects could, in combination with the proposed Project, cause cumulative construction noise impacts. The twenty projects listed above are expected at the present time to have construction schedules that overlap for a period of time with the proposed Project. Of these projects, #3, #5, #6, and #13 are nearest to the pile driving for Berth 408 that is the source of significant project-specific impacts. Should construction occur at these sites at the same time as construction is occurring at any other site, even without the contribution of the proposed Project, a cumulatively significant effect is likely. Other projects (#4, #21, #28, and #71) are nearest to pipeline construction locations for the proposed Project. Pipeline construction is not expected to generate as much noise as pile driving. However, if construction occurs at these locations in the same timeframe, potentially considerable cumulative noise impacts could occur. Since construction is limited in duration, only those projects that overlap in time could contribute to cumulatively considerable construction noise impacts. Since construction noise associated with the proposed project and other similar projects is likely to result in individually significant impacts, the impact of past, present, and reasonably foreseeable future projects is expected to be cumulatively considerable.

Considering the distances between the construction noise sources and receivers, the standard controls and temporary noise barriers may not be sufficient to reduce the projected increase in the ambient noise level to the point where it would not make a cumulatively considerable contribution to a the cumulatively significant construction noise impact. Thus, even after mitigation, the proposed Project would make a cumulatively considerable contribution and the overall impact would be cumulatively significant.

Standard controls, in accordance with the 1992 Deep Draft FEIS/FEIR Mitigation Measures, would be included in all construction contractor specifications to ensure adherence throughout the construction period. These controls are listed in Section 3.10 Noise. In addition, project-specific mitigation measures described in Section 3.10 would also apply (MM NOISE-1, MM NOISE-2, and MM NOISE-3).

Note that cumulative impacts to the least tern nesting area related to all construction activities are analyzed in Section 4.2.3. At least a portion of the disturbance to the nesting area from construction would be associated with noise from construction of the proposed Project. However, no related projects would contribute to any cumulative construction noise impacts on the least tern nesting area. Therefore, the noise component of the potential construction impacts would also be less than cumulatively significant.

### **Cumulative Impact REC-1: Cumulative Substantial Loss or Diminished Quality of Recreational, Educational, or Visitor-Oriented Opportunities, Facilities, or Resources**

Cumulative Impact REC-1 evaluates whether the proposed Project, along with other past, present, and reasonably foreseeable future projects, would result in a substantial loss or diminished quality of recreational, educational, or visitor-oriented opportunities, facilities, or resources.

#### **Finding**

Mitigation measures imposed on the proposed Project would substantially reduce recreational resources impacts, as discussed above with regard to project-specific Impact REC-1, and therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the SEIR. Incorporation of these mitigation measures, however, would not reduce the contribution of the proposed Project to significant cumulative recreational resources impacts below a level of cumulatively considerable. Specific technological considerations make infeasible additional mitigation measures or project alternatives, as explained above with regard to project-specific Impact REC-1.

#### **Rationale for Finding**

A number of cumulative projects would enhance recreational opportunities in the project area. Among these are the Berths 136-147 Marine Terminal (#2) (due to the Harry Bridges Buffer Area development), San Pedro Water Front Project (#3), Cabrillo Way Marina Phase II (#5), Artificial Reef, San Pedro Breakwater (#6), San Pedro Waterfront Enhancements Project (#21), Wilmington Waterfront Master Plan (#25), Inner Cabrillo Beach Water Quality Improvement Program (#32), Cabrillo Marine Aquarium Expansion (#45), Temporary Little League Park (#55), Renaissance Hotel (#84), D'Orsay Hotel (#85), The Pike at Rainbow Harbor (#87), and Queensway Bay Master Plan (#88). Each of these projects will result in improved or added recreational opportunities in the project area. In general, the gradual addition of recreational and visitor serving projects to the project area should have an overall beneficial cumulative impact on recreation.

The majority of the related projects would either not result in substantial demand for recreational services in the Port or would result in additional available recreational opportunities. As a

consequence, past, present, and reasonably foreseeable future projects would not result in a significant cumulative impact related to increased demand for recreational services.

However, the proposed increase of throughput of crude oil products associated with the Ultramar project (#12 in Table 4-1) would contribute to a cumulatively significant impact related to the potential for oil spills to affect recreational resources in the Harbor. The Ultramar Marine Terminal, which imports only refined products, proposes in project #12 to increase throughput of petroleum from 7.5 to 10 million bbl per year. The number of vessel calls would increase from 50 to 95. The proposed Project would make a cumulatively considerable contribution to this significant cumulative impact.

MM RISK-2.1a (Double-Hulled Vessels) and MM RISK-2.1b (Quick-Release Couplings) would lower the risk of an accidental oil spill. However, no measures can eliminate the risk entirely. Residual cumulative impacts would be cumulatively considerable and unavoidable.

### **Cumulative Impact RISK-2: Potential for Accidental Crude Oil Spill with Frequency and Severity of Consequence Considered Significant Using the Frequency/Consequences Matrix**

Impact RISK-2, as applied to cumulative impacts, represents the potential of the proposed Project along with other cumulative projects to substantially increase the probable frequency and severity of consequences to people or property as a result of a potential accidental release or explosion of a hazardous substance

#### **Finding**

Mitigation measures imposed on the proposed Project would substantially reduce hazardous release impacts, as discussed above with regard to project-specific Impact RISK-2.1, and therefore, the Board hereby finds that changes or alterations have been incorporated into the project that avoid or substantially lessen the significant environmental effect identified in the SEIR. Incorporation of these mitigation measures, however, would not reduce the contribution of the proposed Project to significant cumulative spill risk impacts below a level of cumulatively considerable. Specific technological considerations make infeasible additional mitigation measures or project alternatives, as explained above with regard to project-specific Impact RISK-2.1.

#### **Rationale for Finding**

Currently there are several proposed projects in the Port area that would contribute to the risk of hazardous releases. Numerous facilities handle, store, or transport hazardous materials within the Port, including hazardous liquid bulk cargoes such as fuels or hazardous materials that are shipped inside cargo containers. The transportation and handling of hazardous materials are subject to extensive federal, state, and local regulations and controls.

The proposed Sound Energy Solutions LNG terminal (#76 in Table 4-1) would be located (if constructed) within 1.5 miles (2.4 km) of the proposed Project tank farms. In the absence of

mitigation measures (see Section 3.12.4.3.1) and compliance with applicable laws and regulations, the risk of fire, explosion, injuries, and fatalities associated with the LNG facility in close proximity to the Project proposed in this SEIS/SEIR would present a significant cumulative risk impact in connection with initiating an accident at the tank farm facilities proposed in this SEIS/SEIR. In addition, the proposed increase of throughput of crude oil products associated with the Ultramar project (see project 12 in Table 4-1) would similarly present increased risks when combined with the Project. The Ultramar Marine Terminal Lease Renewal project proposes an increase in throughput of petroleum from 7.5 to 10 million bbl per year (note that the Ultramar terminal imports only refined products). The number of vessel calls at the terminal would also increase from 50 to 95. The Ultramar Marine Terminal currently utilizes the existing KMEP pipelines that would be used by the Proposed Project (KMEP pipeline segments 6 and 7 as identified in Tables 3.12-8 through 3.12-10). While these pipeline segments are currently in use, the risk of an oil spill into Port waters would be considered significant.

MM RISK-2.1a and MM RISK-2.1b (described in Section 3.12) would apply. The residual cumulative impacts associated with oil spills resulting from a vessel accident or pipeline leak would be significant and unavoidable, due to the proximity of the Cabrillo Shallow Water Habitat and the Pier 400 Least Tern Habitat and the potential for a spill to impact sensitive resources and result in the degradation of the habitat. Residual impacts would be cumulatively considerable and unavoidable under CEQA.

### **Cumulative Impact RISK-5: Terrorist Attack**

Impact RISK-5 as applied to cumulative impacts represents the risk that a potential terrorist attack would result in adverse consequences to areas near the proposed Project site

#### **Finding**

A variety of programs are in place at the Port to reduce potential terrorist threats, as discussed in Section 3.12. In addition, **MM 4I-7** from the Deep Draft FEIS/FEIR requires that the Port Police provide adequate security coverage of the proposed Project area. For the proposed Project this would include vehicle barriers, site control and regular patrols. However, even with the application of all possible mitigation measures, the potential residual contribution from the proposed Project related to terrorism risk would be considered cumulatively considerable given the environmental and public safety consequences associated with a successful terrorist attack.

Mitigation measures imposed on the proposed Project would substantially reduce terrorism risk impacts, as discussed above with regard to project-specific Impact RISK-5, and the Board hereby finds that changes or alterations have been incorporated into the project that lessen the significant environmental effect identified in the SEIR. Incorporation of these mitigation measures, however, would not reduce the contribution of the proposed Project to significant cumulative terrorism risk impacts below significance. Specific legal and technological considerations make infeasible additional mitigation measures or project alternatives, as discussed above with regard to project-specific Impact RISK-5.

#### **Rationale for Finding**

Potential impacts due to terrorism are characteristic of the entire Los Angeles and Long Beach (LA/LB) metropolitan area. Terrorism risk can be based on simple population-based metrics (i.e., population density) or event-based models (i.e., specific attack scenarios). Willis et al (2005)

evaluated the relative merits and deficiencies of these two approaches to estimating terrorism risk, and outlined hybrid approaches of these methods. Overall, the results of the terrorism risk analysis characterized the LA/LB metropolitan area as one of the highest-risk regions in the country. Using population metrics, the LA/LB region was ranked either first or second in the country, while the event-based model dropped the LA/LB region to the fifth ranked metropolitan area, mainly due to the relative lack of attractive, high profile targets (i.e., national landmarks or high profile, densely populated buildings). Using various approaches and metrics, the LA/LB region represented between 4 and 11 percent of the U.S. terrorism risk.

Historical experience provides little guidance in estimating the probability of a terrorist attack on an oil tanker or onshore terminal facility. Sinking a cargo ship in order to block a strategic lane of commerce actually presents a relatively low risk, in large part because the targeting of such attacks is inconsistent with the primary motivation for most terrorist groups (i.e., achieving maximum public attention through inflicted loss of life). Sinking of a ship would likely cause greater environmental damage due to spilled fuel, but this is generally not a goal of terrorist groups.

However, at the national level, potential terrorist targets are plentiful, including those having national significance, those with a large concentration of the public (e.g., major sporting events, mass transit, skyscrapers, etc.), or critical infrastructure facilities. Currently, the United States has over 500 chemical facilities operating near large populations. U.S. waterways also transport over 100,000 annual shipments of hazardous marine cargo, including LPG, ammonia, and other volatile chemicals. All of these substances pose hazards that far exceed those associated with a container terminal. Currently, the San Pedro Bay Ports handle approximately 37 percent of the national cargo container throughput along with other commodities such as crude oil analyzed in the proposed Project.

Nationally, cargo throughput is expected to double by 2020 (USDOT, 2005), while San Pedro Bay throughput is expected to more than triple during the same period (Parsons, 2006). While cumulative container and other commodity throughput would continue to grow in importance on a national level, the San Pedro Bay Ports already represent a substantial fraction of national container terminal throughput, and by default, an attractive economic terrorist target. Given the relative importance of the San Pedro Bay Ports under baseline conditions, the addition of a marine oil terminal facility would not be expected to materially change the relative importance as a potential terrorist target.

Because there are no measurable and/or definitive links between crude oil throughput and the probability of a terrorist attack, because there are no measurable and/or definitive links between container throughput and the consequences of a terrorist attack, and because many factors other than container throughput would be the likely or primary motivations that would dictate the probability and consequences of a terrorist attack, the throughput increases at the Port associated with the related projects would not result in a significant cumulative impact related an increased probability of a terrorist attack

### **Cumulative Impact WQ-1: Cumulative Discharge Effects to Water and Sediment Quality**

Cumulative Impact WQ-1 represents the potential of the proposed Project, along with other cumulative projects, to create pollution, cause nuisances, or violate applicable standards.

#### **Finding**

Best management practices to prevent or minimize contaminant loadings to the harbor from stormwater runoff from past, present, and future projects, including the proposed Project, are required by the Standard Urban Stormwater Mitigation Plan (SUSMP), which is incorporated into the Los Angeles County Urban Runoff and Stormwater NPDES Permit issued by the RWQCB. SUSMP requirements must be incorporated into the project plan and approved prior to issuance of building and grading permits. Specifically, the SUSMP requires that each project incorporate BMPs specifically designed to minimize stormwater pollutant discharges. While adopted BMPs will vary by project, all BMPs must meet specific design standards to mitigate stormwater runoff and control peak flow discharges. The SUSMP also requires implementation of a monitoring and reporting program to ensure compliance with the constituent limitations in the permit. These BMPs and compliance monitoring would reduce the residual cumulative impacts from runoff to less than considerable.

As discussed in Section 3.13, safety measures specified in the Los Angeles Harbor District Risk Management Plan and in project-specific SPCC plans minimize the risks of a large, accidental spill from impacting the harbor. However, these plans cannot completely eliminate the risk of a spill. Consequently, the proposed Project's contribution to the cumulative impact would be significant and unavoidable. Mitigation measures imposed on the proposed Project would substantially reduce water quality impacts, as discussed above with regard to project-specific Impact WQ-1, and the Board hereby finds that changes or alterations have been incorporated into the project that lessen the significant environmental effect identified in the SEIR. Incorporation of these mitigation measures, however, would not reduce the contribution of the proposed Project to significant cumulative water quality impacts below significance. Specific legal and technological considerations make infeasible additional mitigation measures or project alternatives, as discussed above with regard to project-specific Impact WQ-1.

### **Rationale for Finding**

Water and sediment quality within the geographic scope are affected by present and past activities within the Harbor (e.g., shipping and wastewater discharges from the Terminal Island Treatment Plant [TITP]), inputs from the watershed including runoff and aerial deposition of particulate pollutants, and effects from historical (legacy) inputs. As discussed in Section 3.14, portions of the Los Angeles/Long Beach harbor complex are identified on the current Section 303(d) list as impaired for a variety of chemical and bacteriological stressors and effects to biological communities. For those stressors causing water quality impairments, TMDLs will be developed that will specify load allocations from the individual input sources, such that the cumulative loadings to the Harbor would be below levels expected to adversely affect water quality and beneficial uses of the water body. However, these TMDL studies are not planned until the year 2019 (see Section 3.14.2.1). Thus, in the absence of restricted load allocations and/or removal or remediation of contaminated sediments, the impairments would be expected to persist.

Present and reasonably foreseeable future projects with in-water construction components, such as dredging and pier upgrades, would result in temporary and localized effects to water quality that would be individually comparable to those associated with the proposed Project. Changes to water quality associated with in-water construction for the other cumulative projects would not persist for the same reasons discussed in Section 3.14. Therefore, cumulative impacts would occur only if the spatial influences of concurrent projects overlapped. Of the cumulative projects listed in Table 4-1, only the Channel Deepening Project (#4), China Shipping Terminal Development (#15) and Berths 121-131 Development (#29) are located in the vicinity of the proposed Project and involve in-water construction activities. Dredging for the Channel Deepening Project (#4) and Phase I construction for the China Shipping Terminal Development (#15) has been completed, whereas the Berths 121-131 Development



(#29) is still in the planning phase. The Consolidated Slip Sediment Restoration project, as well as a number of projects within the Port of Long Beach, including the Middle Harbor Terminal Redevelopment (#69), Piers G and J Redevelopment (#70), Pier T Marine Terminal (#73), and Pier S Marine Terminal (#74), would involve dredging and/or in-water construction. However, water quality effects from in-water construction activities associated with these cumulative projects would be limited to the immediate dredging or construction area and would not overlap with those associated with construction of the proposed Project. The Artificial Reef (#6) and Inner Cabrillo Beach Water Quality Improvement (#32) projects would also involve minor in-water construction, but effects from these projects would not overlap with those of the proposed Project.

Wastewater discharges associated with project operations and runoff from project sites would be regulated by stormwater permits. The permits would specify constituent limits and/or mass emission rates that are intended to protect water quality and beneficial uses of receiving waters from cumulative effects associated with multiple, concurrent stormwater discharges. In addition, related projects in the Ports of Los Angeles and Long Beach would be operated in accordance with industrial SWPPPs that require monitoring and compliance with permit conditions. SUSMP requirements would also be implemented via the planning, design, and building permit processes. Although standard regulatory compliance measures would apply to the related projects, which would minimize their pollutant contributions to the Harbor, the Harbor is still listed on the Section 303(d) list as being impaired, and would likely remain so until TMDLs can be fully implemented throughout the entire watershed. Consequently, a significant cumulative impact to water quality related to its Section 303(d) listing would remain.

Development of port facilities associated with the cumulative projects, including Pier 400 Container Terminal (#1), Evergreen Container Terminal Improvements (#7), Berths 97-109 Development (#15), Berths 302-305 APL Container Terminal Improvements (#23), Berths 212-224 Container Terminal Improvements (#28), Berths 121-131 Container Terminal Improvements (#29), Middle Harbor Terminal Redevelopment (#69), Piers G & J Terminal Redevelopment (#70), Pier T Terminal (#73), and Pier S Marine Terminal (#74), is expected to contribute to a greater number of ship visits to the Ports of Los Angeles and Long Beach. Assuming that the potential for accidental spills, illegal vessel discharges, and incidental discharges from normal vessel operations would increase in proportion to the increased vessel traffic, contaminant loadings to the Harbor also would be expected to increase. The significance of this increased loading would depend in part on the volumes and composition of the releases, as well as the timing and effectiveness of spill response actions. As noted for the proposed Project (Section 3.14.4.3.1), there is no evidence that illegal discharges for ships are causing widespread impacts to water quality in the Harbor. Also, incidental vessel discharges would be governed by the Vessel General Permit (VGP) that specifies effluent limitations to prevent violations of water quality standards (USEPA 2008). However, as Harbor waters are considered impaired and because these related projects would contribute to pollutant loadings through spills and vessel discharges, these related projects would result in significant cumulative water quality impacts. A long-term increase in the transport of crude oil and petroleum products through the Ports would result from the Ultramar Lease Renewal Project (#12) and Chemoil Marine Terminal (#79). These projects have the potential for accidental spills of oil or products into Harbor waters in proportion to the number of vessels and transfers. Small spills of less than 10 bbl are expected to have limited effects on marine water quality because the area affected would be localized, and containment and cleanup procedures would reduce the potential for spreading. Larger spills (10 to 238 bbl) are considered rare (see Chapter 3.12) and unlikely to occur at any of the proposed facilities. However, if a large spill did occur, the magnitude and extent of impacts would depend on the amount of water affected. In either case, the presence of any amount of spilled oil would exceed the threshold for oil

and grease as defined in the Basin Plan. Therefore, cumulative impacts to water quality would be significant.

## Environmental Justice

While not a CEQA Impact Section, the SEIS/SEIR includes an environmental justice analysis. The environmental justice analysis complies with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which requires federal agencies to assess the potential for their actions to have disproportionately high and adverse environmental and health impacts on minority and low-income populations, and with the Council on Environmental Quality (CEQ) *Guidance for Environmental Justice Under NEPA* (CEQ 1997). This assessment is also consistent with California state law regarding environmental justice.

After implementation of mitigation measures, the proposed Project would result in disproportionate effects on minority and low-income populations as a result of significant project and cumulative impacts related to air quality, noise, recreation, and risk of upset. Six comments were received from the USEPA and the Coalition for a Safe Environment in regards to Environmental Justice. The comments largely focused on two areas: (1) conducting various Public Health surveys (USEPA-16, CSE-5, 6 and 26) and (2) Additional Mitigation (USEPA-17, CSE-4)

### *Public Health Surveys:*

The comments from USEPA and CSE suggests conducting a port-wide Health Impact Assessment (HIA)-like analysis. According to the World Health Organization (WHO), a Health Impact Assessment (HIA) is “*A combination of procedures, methods and tools by which a policy, program or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population*”. Recommendations are produced for decision makers and stakeholders, with the aim of maximizing the proposal’s positive health effects and minimizing the negative health effects. The SEIS/SEIR included a number of health assessment tools to accomplish the goals of an HIA and therefore, a separate HIA is not warranted. These tools include a full project-specific Health Risk Assessment (HRA), criteria pollutant modeling, morbidity/mortality analysis, an Environmental Justice analysis, and a Socioeconomic analysis. These analyses are presented in the SEIS/SEIR for the proposed Project and all project Alternatives (including the No Project Alternative), allowing the reader, and subsequently the Board (the decision makers) to compare and contrast the benefits and costs among all proposals.

The HRA, as presented in Section 3.2 and Appendix H4, examined the cancer risks and the acute and chronic noncancer health risks associated with the proposed Project and all project Alternatives on the local communities. Health risks are analyzed for five different receptor types: residential, sensitive (elderly and immuno-compromised), student, recreational, and occupational. Health risks are reported over geographical areas (for example, the HRA includes cancer risk isopleths to illustrate risk patterns in the communities). The HRA is based on procedures developed by public health agencies, most notably the California Office of Environmental Health Hazards Assessment (OEHHA). Section 3.2 and Appendix H also include a discussion of some recent studies that link pollution, specifically Diesel PM, to various health impacts including cancer, asthma and cardiovascular disease.

The SEIS/SEIR also includes a particulate matter mortality analysis that assesses the incidence (as opposed to risk) of premature death as a result of the proposed Project. As discussed in Section 3.2, epidemiological studies substantiate the correlation between the inhalation of ambient PM and

increased mortality and morbidity (CARB 2002a and CARB 2007). The analysis is based on guidance from CARB and relies on numerous studies and research efforts that focused on PM and ozone as they represent a large portion of known risk associated with exposure to outdoor air pollution. CARB's analysis of various studies allowed large-scale quantification of the health effects associated with emission sources.

The Environmental Justice Section (Chapter 5) of the SEIS/SEIR evaluates whether the proposed Project and its alternatives would result in disproportionately high and adverse human health or environmental impacts on minority populations and low-income populations. The Environmental Justice analysis looks at the Project impacts as assessed in Chapter 3 of the SEIS/SEIR on minority and low-income individuals in the local communities surrounding the Port. The Socioeconomic Section (Chapter 7) encompasses a number of topical areas including employment and income, population, and housing. Within each of these areas, subtopics include an examination of conditions at different geographical scales that are relevant to the potential impacts associated with implementation of the proposed Project.

In addition to the reasons above, the complexity of individual health outcomes and the fact that they are based on numerous factors involving personal choices as well as environmental factors make public health surveys inaccurate and infeasible for the purpose of identifying the effect of air quality mitigation measures on public health. Therefore, there is no need to do an additional HIA-like survey as part of the SEIS/SEIR.

The Port however, will track all mitigation measures through the Mitigation Monitoring Reporting Program (MMRP). Tracking will include an annual report to the Board of Harbor Commissioners at a public Board meeting.

#### *EJ Mitigation Measures*

In regards to comment USEPA-17, USEPA recommended a series of mitigation measures (individually addressed below) to further reduce environmental justice impacts. The Corps and Port are committed to mitigating disproportionate effects to the extent feasible. The Port's primary means of mitigating the disproportionate effects of air quality impacts is to address the source of the impact through a variety of Port-wide clean air initiatives, including the CAAP, the Sustainable Construction Guidelines, and the CAAP San Pedro Bay [Health] Standards. As part of the San Pedro Bay Standards, the Port will complete a Port-wide Health Risk Assessment (HRA) covering both the Ports of Los Angeles and Long Beach that will include a quantitative estimate of overall health risk impacts from the Ports' existing operations. Current and future projects approval will be dependent on meeting the SPB Standard. Through a Memorandum of Understanding, the Port has previously agreed to establish a Port Community Mitigation Trust Fund geared towards addressing, outside the process of CEQA/NEPA review of individual proposed Port projects, the overall off-port impacts created by existing Port operations. This fund includes, for example, approximately \$6 million for air filtration in schools and funding for an initial study of off-Port impacts on health and land use in Wilmington and San Pedro, as well as a more detailed subsequent study of off-Port impacts examining aesthetics, light and glare, traffic, public safety and effects of vibration, recreation, and cultural resources related to port impacts on harbor area communities. As part of the MOU, the Port would contribute \$0.15 per ton of crude oil received at the terminal up to an amount of approximately \$5 million. The off-Port community benefits of the MOU are designed to offset overall effects of Port operations. While the MOU does not alter the legal obligations of the lead agencies under NEPA or CEQA to disclose and evaluate mitigation measures to reduce or avoid cumulative impacts of the

Project, and therefore is not an environmental justice mitigation per se, it would have particular benefits for harbor area communities where disproportionate effects could occur.

The remainder of this discussion addresses the individual environmental justice mitigations suggested in the comments. Regarding suggestion to engage in proactive efforts to hire local workers and the suggestion to provide public education programs, the Port has an on-going set of mechanisms to promote inclusion of small, minority, woman-owned and similar business enterprises, many of which are located in the local area, in its contracting. In addition, job training targeted to Harbor Area communities is provided by economic development organizations, the City of Los Angeles, and other entities. The Port provides outreach to the community in the form of meetings with the PCAC and other community groups and individuals and provides community education information on its website, in newsletters that are available in English and Spanish, through outreach at community events and festivals, and by other means.

Related to the suggestion of anti-idling requirements, for the proposed Project, imported crude oil would be transported via pipeline to refineries, not by truck; thus anti-idling requirements would not be relevant to the proposed marine terminal operation in the same manner as a container terminal operation.

In regards to construction truck idling, Mitigation Measure AQ-5 has been amended as shown below, to include construction trucks.

***MM AQ-5: Best Management Practices (BMPs)***

*The following types of measures are required on construction equipment (including on-road trucks):*

- *Use of diesel oxidation catalysts and catalyzed diesel particulate traps*
- *Maintain equipment according to manufacturers' specifications*
- *Restrict idling of construction equipment and on-road heavy-duty trucks to a maximum of 5 minutes when not in use*
- *Install high-pressure fuel injectors on construction equipment vehicles*
- *Maintain a minimum buffer zone of 300 meters between truck traffic and sensitive receptors*
- *Improve traffic flow by signal synchronization*
- *Enforce truck parking restrictions*
- *Provide on-site services to minimize truck traffic in or near residential areas, including, but not limited to, the following services: meal or cafeteria services, automated teller machines, etc.*
- *Re-route construction trucks away from congested streets or sensitive receptor areas*
- *Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site.*

Related to the suggestion of establishing Environmental Management Systems, the Port has developed and is implementing an award-winning Environmental Management System (briefly summarized in Section 1.6 of the SEIS/SEIR) that improves efficiency and reduces environmental impacts from operations.

Related to the suggestion to improve access to healthy food by establishing markets on Port lands, most of the land administered by LAHD is zoned to allow for coastal dependent cargo transport activities and related facilities. Also, the Port is operated and managed under a State Tidelands Trust that grants local municipalities jurisdiction over ports and stipulates that activities must be related to commerce, navigation and fisheries. Thus, although some of the land administered by LAHD is zoned in such a way that it could accommodate a retail or commercial use, establishing a retail outlet or farmer's market would not be consistent with LAHD's central purpose.

Finally, related to the suggestion to continue expansion and improvements to the local community's parks and recreation system: As described above, the Port Community Mitigation Trust Fund will fund a study of off-port impacts, including recreation and other topics. In addition, the Port's proposed San Pedro Waterfront project, if approved, would provide open space, recreation and pedestrian amenities.

In regards to the Coalition for a Safe Environment's suggestion to install air purifiers, as discussed above the Port has previously agreed to establish a Port Community Mitigation Trust Fund geared towards addressing the overall off-port impacts created by existing Port operations outside of the context of project-specific NEPA and/or CEQA documents. This fund includes, for example, approximately \$6 million for air filtration in schools and funding for an initial study of off-Port impacts on health and land use in Wilmington and San Pedro, as well as a more detailed subsequent study of off-Port impacts of existing Port operations, examining aesthetics, light and glare, traffic, public safety and effects of vibration, recreation, and cultural resources related to port impacts on harbor area communities. As part of the MOU, the Port would contribute \$0.15 per ton of crude oil received at the terminal up to an amount of approximately \$5 million. The off-Port community benefits of the MOU are designed to offset overall effects of existing Port operations. While the MOU does not alter the legal obligations of the lead agencies under CEQA to disclose and evaluate mitigation measures to reduce or avoid cumulative impacts of the Project, and therefore is not an environmental justice mitigation per se, it would have particular benefits for harbor area communities where disproportionate effects could occur.

## **Finding Regarding Responses to Comments on the Draft SEIS/SEIR**

The Board of Harbor Commissioners finds that all information added to the SEIR after public notice of the availability of the Draft SEIS/SEIR for public review but before certification merely clarifies or amplifies or makes insignificant modifications in an adequate SEIR and does not require recirculation.

After careful consideration of all comments, the Board recognizes that disagreements among experts remain with respect to environmental impacts identified in the Final AEIS/SEIR. Main points of disagreements include assessment of environmental impacts in these resource areas: Air Quality, Biology, Noise, Hazardous Materials, and Recreation. These disagreements are addressed in detail in response to comments. The Board finds that substantial evidence supports the conclusions in the Final SEIS/SEIR.

### **III. Alternatives to the Proposed Project**

#### **Alternatives Considered**

Sixteen alternatives, including the proposed Project and the No Federal Action/No Project Alternative, were considered and evaluated in regards to how well each could feasibly meet the basic objectives of the Project and avoid or substantially lessen any of the significant effects of the project. Thirteen of these alternatives were eliminated from detailed consideration either because they could not feasibly meet the basic objectives of the Project and/or because they would not avoid or substantially lessen any of the significant effects of the project, as discussed in Section 2.5.2 and Section 6 of the SEIS/SEIR. Three of the alternatives were carried forward for further analysis to determine whether they could feasibly meet most of the Project objectives but avoid or substantially lessen any of the significant effects of the project. These three alternatives are evaluated co-equally with the proposed Project for all environmental resources in Chapter 3 in the SEIS/SEIR. Chapter 6 of the SEIS/SEIR compares the proposed Project and these four alternatives and identifies the environmentally preferred and environmentally superior alternative. The three alternatives that were carried through the analysis of impacts in Chapter 3 are:

- Proposed Project
- No Federal Action/No Project Alternative; and
- Reduced Project Alternative: the proposed Project with reduced throughput.

#### **Alternatives Eliminated from Further Consideration**

Alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, need not be considered (CEQA Guidelines, Section 15126[f][2]). Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid any significant environmental effects (CEQA Guidelines, Section 15126.6[c]). The following alternatives were determined to be infeasible and were eliminated from further consideration in the SEIS/SEIR (additional details regarding reasons for rejection are included in Chapter 6 of the SEIS/SEIR):

- expansion of other crude oil terminals inside the Port of Los Angeles (Port);
- use of existing or planned berth(s) within the Port;
- development of a terminal on a new landfill inside the Port;
- use, expansion or construction of a terminal outside the Port;
- use of an offshore mooring site (monobuoy) on Terminal Island;
- shipping to the Bay Area and pipelining to southern California;
- constraining the size of vessels that could call at Berth 408;
- alternative storage tank configurations;
- a non-shipping use of the Pier 400 area;
- relocation of existing liquid bulk terminals to Pier 400;
- building a new container terminal on Pier 400;

- building a liquid bulk terminal on Pier 400 for refined products/alternative fuels, instead of crude oil; and
- building a renewable energy facility on Pier 400.

### Alternatives Analyzed in the SEIS/SEIR

Chapter 6 of the SEIS/SEIR contains a detailed comparative analysis of the alternatives that were found to achieve the project objectives, are considered ostensibly feasible, and may reduce environmental impacts associated with the proposed project. Table 6 provides a summary of the alternatives.

**Table 10. Summary of Proposed Project and Alternatives in 2040**

	<i>Marine Terminal Acres</i>	<i>Tank Farm Acres</i>	<i>Annual Tanker Calls at Berth 408</i>	<i>Average Daily Crude Oil Throughput at Berth 408 (barrels per day [bpd])</i>	<i>Increase in Annual Tanker Calls at Other Existing Berths in the San Pedro Bay Ports</i>	<i>Total New Tank Capacity (barrels [bbl]) at Berth 408</i>	<i>Operational Employee Estimates at Berth 408</i>
Proposed Project	5.0	48.8	201 <sup>2</sup>	677,000	0 <sup>3</sup>	4.0 million	54 <sup>5</sup>
No Federal Action/No Project Alternative	0	0	0	0	267 <sup>4</sup>	0	0
Reduced Project Alternative	5.0	48.8	132 <sup>2</sup>	450,000	240 <sup>4</sup>	4.0 million	61 <sup>5</sup>
<p><i>Notes:</i></p> <ol style="list-style-type: none"> <li>1. This table summarizes the major features of the proposed Project and alternatives.</li> <li>2. The number of tanker calls at Berth 408 depends on crude oil supply sources and vessel availability and, for the Reduced Project Alternative only, the lease cap that would be imposed as part of that alternative. The estimates shown here are based upon projections of the world tanker fleet and terminal throughput from Baker &amp; O'Brien (2007), and represent the highest reasonably foreseeable number of tanker calls for the proposed Project and the Reduced Project Alternative. (See Chapter 2, especially Table 2-1, Table 2-9, Table 2-12, and Table 2-13, for additional details, and see Appendix D1 for detailed calculations used to derive the estimates.) These highest reasonably foreseeable numbers are assumed in the impact analysis in this SEIS/SEIR in order to capture all potential impacts. A higher proportion of large vessels carrying larger loads would mean fewer vessel calls per year. Note that an emissions cap would be imposed in the South Coast Air Quality Management District (SCAQMD) operating permit, as described in Section 3.2 Air Quality. The actual number of tanker calls per year would be limited to comply with the SCAQMD permit condition; however, this SEIS/SEIR does not incorporate this limitation (in order to capture all potential impacts).</li> <li>3. For the proposed Project, the environmental analysis uses the assumption that every new barrel of crude oil demanded by southern California refineries would be received at the new Berth 408. This may not occur in practice, as competition will continue among marine oil terminals to bring in oil imports and deliver them to area refineries. However, the assumption provides for a conservative analysis of reasonably foreseeable environmental impacts.</li> <li>4. The number of tanker calls at existing terminals is an estimate based upon projections of the world tanker fleet and excess capacity at other existing terminals. See Section 2.5.2.1 for more information, and refer to Appendix D1 for detailed calculations used to derive the estimates.</li> <li>5. The number of employees during operation includes those employed or contracted by PLAMT as well as the estimated increase in tugboat and Port pilot crews due to increased vessel calls (including, for the Reduced Project Alternative only, increased vessel calls at existing berths in the San Pedro Bay Ports).</li> </ol>							

Table 10 presents a summary of the impact analysis for the proposed Project and the Alternatives. Table 11 presents a comparison of the Alternatives to the proposed Project.



**Table 11 Summary of CEQA Significance Analysis by Alternative**

<i>Environmental Resource Area*</i>	<i>Proposed Project</i>	<i>No Federal Action/No Project Alternative</i>	<i>Reduced Project Alternative</i>
Air Quality	S	S	S
Biological Resources	S	S	S
Geology	S	S	S
Ground Transportation	M	L	M
Groundwater & Soils	M	L	M
Noise	S	L	S
Recreation	S	S	S
Risk of Upset/Hazardous Materials	S	S	S
Utilities and Public Services	M	L	M
Water Quality, Sediments, and Oceanography	S	S	S
<i>Notes:</i> * Only environmental resources with unavoidable significant impacts or significant but mitigable impacts are included in the table and the analysis used to rank alternatives; the analysis includes project-level impacts, not cumulative effects S = Unavoidable significant impact M = Significant but mitigable impact L = Less than significant impact (not significant)			

**Table 12 Comparison of Alternatives to the Proposed Project (with Mitigation; CEQA Impacts)**

<i>Environmental Resource Area*</i>	<i>No Federal Action/No Project Alternative</i>	<i>Reduced Project Alternative</i>
Air Quality	2	1
Biological Resources	-1	0
Geology	0	0
Ground Transportation	0	0
Groundwater & Soils	0	0
Noise	-1	0
Recreation	-1	0
Risk of Upset/Hazardous Materials	0	0
Utilities and Public Services	0	0
Water Quality, Sediments, and Oceanography	0	0
<b>Total</b>	<b>-1</b>	<b>1</b>
<i>Notes:</i> -2 = Impact considered to be substantially less when compared with the proposed Project. -1 = Impact considered to be somewhat less when compared with the proposed Project. 0 = Impact considered to be equal to the proposed Project. 1 = Impact considered to be somewhat greater when compared with the proposed Project. 2 = Impact considered to be substantially greater when compared with the proposed Project. Where significant unavoidable impacts would occur across different alternatives but there are impact intensity differences between those alternatives, numeric differences are used to differentiate alternatives (i.e., in some cases, there are differences at the individual impact level, such as differences in number of impacts or relative intensity).		

## Environmentally Superior Alternative

As shown in Table 12 the No Project Alternative is deemed to be the environmentally superior alternative under CEQA, although this alternative does not meet all Project objectives. However, it should be noted that single most pressing environmental issue at the Port of Los Angeles is the reduction of air emissions. The No Project Alternative results in significantly more emissions as a result of the use of more smaller ships to call at existing terminals, their longer transit time and more maneuvering.

## Alternatives Suggested as Part of Public Comment on the Draft SEIS/SEIR

Three comments on the Draft SEIS/SEIR were received requesting the Port analyze two additional Alternatives to the proposed Project. Two comments, from Kathleen Woodfield and John Miller (KW/JM-6) and Melanie Jones and Peter Warren (MJ/PW-27), requested the Port relocate the Marine Terminal to Face E of Pier 400, while the San Pedro and Peninsula Homeowners Coalition (SP&PHC-11) requested the Port analyze a Wind Power or Wave Power Plant. As discussed in Chapter 2 of the Draft SEIS/SEIR, both of these alternatives were considered but dismissed.

### *Pier 400, Face E*

The Draft SEIS/SEIR considered the Pier 400, Face E, alternative and determined that the relatively minor advantages over the proposed Project are outweighed by the greater environmental impacts Face D supports a location that would give carriers a straight entrance to a berth near the entrance to the harbor and a safe turning basin neither of which is achieved at Face E, and the channel of –81 feet was dredged to this location for that reason. The Face E alternative would also result in greater environmental impacts due to the additional impacts and costs associated with: required dredging (the channel alongside Face E is dredged to only 69 feet); the increased number of turns a VLCC would need to take to access Face E (thus increasing air emissions and potentially limiting recreational access); potential adverse effects on California least tern due to increased activity of having a ship berth immediately adjacent to the California least tern nesting site.. See Draft SEIS/SEIR Section 2.5.3.2.10.

### *Wind Power or Wave Power Plant*

The SEIS/SEIR specifically considers the possibility of rejecting the applicant’s proposal and instead constructing either a terminal to accommodate carbon-based alternative fuels such as biofuels or ethanol (Section 2.5.3.12) or a renewable energy generation facility on all or portions of the site (Section 2.5.3.13). As described in Section 2.5.3.12, constructing a facility to accommodate delivery of refined carbon-based fuels would not meet project objectives because, in practice, such an alternative would not permit Berth 408 to accommodate VLCCs (since refined products are not carried on VLCCs, nor in Suezmax vessels). Such an alternative would therefore not maximize the use of deep-water facilities created for the purpose of accommodating VLCCs by the Deep-Draft Navigation Improvements Project, nor would it optimize the Port’s overall utilization of available shoreline. In addition, as described in Section 2.5.3.12, this alternative would not eliminate any of the environmental impacts associated with the proposed Project and would, in fact, have greater impacts in certain areas due to the use of more small vessels carrying more volatile fuels.

As described in Section 2.5.3.13, constructing a renewable energy generation facility such as a wind or wave power facility would be inconsistent with land use policies and would not accomplish the

objectives of the project to provide the facilities needed to accommodate a portion of the future demand for crude oil imports to southern California. The small land available for development on Pier 400 would preclude any significant development of wind generation facility. This alternative would also preclude uses that would realize the benefits of the deep-draft channel created by the Port and USACE to accommodate deep-draft tanker vessels. Also, the proposed project does not preclude the development energy generating facilities at other locations inn the State. Accordingly, this alternative was eliminated from consideration.

### *Offshore Mooring*

The Port and USACE considered the possibility of an offshore mooring site with tank farm facilities located on Terminal Island (Section 2.5.3.5). Although offshore mooring would have some advantages from an environmental perspective compared to the proposed Project, the Port and USACE found that this alternative would also have a number of significant disadvantages, including the potential for weather-induced interruptions of supply; the potential for accidents to result in releases of oil on rough ocean waters, where cleanup would be far more difficult than inside the harbor; the environmental impacts to the marine community associated with the construction of a pipeline several miles long; and the very high cost of construction. In addition, Appendix F of the SEIS/SEIR contains a report by an engineering consulting firm (Moffatt & Nichol) that considers potential sites for an offshore mooring and concludes that “an offshore single point mooring location does not appear to be feasible, primarily for cost reasons and secondarily because of environmental and technical challenges.”

## **CEQA Findings for Alternatives Analyzed**

### **Project Purpose:**

The overall purpose of the proposed Project is to help accommodate the projected increase in demand for foreign crude oil to be imported into southern California while mitigating the impacts of that activity on the local environment and the Los Angeles region through adoption of all feasible mitigation measures and by implementing the San Pedro Bay Ports Clean Air Action Plan (CAAP). This purpose requires completing the environmental documentation to assess potential impacts of the proposed improvements (the proposed Project) and feasible alternatives.

LAHD bases the need for the proposed Project on the following four current conditions: (1) the need to accommodate increasing foreign crude oil imports to offset declining domestic production; (2) a trend toward larger vessels and larger cargo sizes; (3) a projected shortfall in crude oil vessel berthing capacity at the San Pedro Bay Ports; and (4) increased need for crude oil tank capacity for efficient offloading of vessels at berth.

### **Project Objectives:**

The following Project objectives were considered for the Alternatives analysis:

To establish and maximize the Port's crude oil handling efficiency and capacity, the following key Project objectives must be accomplished:

Construct a crude oil marine terminal capable of accommodating deep-draft VLCC tankers, i.e., tankers up to 325,000 DWT or 2,300,000-bbl capacity and construct associated infrastructure capacity that would efficiently accommodate a portion of the forecasted increases in demand for crude oil to be shipped to southern California by sea, while maximizing the use of deep-water facilities created for the purpose by the Deep-Draft Navigation Improvements Project and integrating into the Port's overall utilization of available shoreline. The project objective would be accomplished by:

1. Providing needed crude oil marine terminal accessory buildings and structures to support efficient crude oil unloading and handling requirements;
2. Providing unloading capabilities to promote direct transfer of crude oil from ship to pipeline; and
3. Providing access to land-based tanks and new and existing pipeline systems to transport crude oil to refineries for processing.

The findings below are based on the entirety of the record and the Board's particular interest in prioritizing the reduction of air pollution and risk to the community over other environmental considerations, while maximizing Port efficiency and capacity for handling containerized cargo.

### **Alternative 1: No Federal Action/No Project**

This alternative is what would reasonably be expected to occur on the site if no Port or Federal action would occur. The Port would not issue any permits or discretionary approvals, and would take no further action to construct and develop additional backlands or any aspect of the proposed Project. a result of the considerations discussed above the No Federal Action/No Project Alternative in this SEIR considers the only remaining allowable and reasonably foreseeable use of the proposed Project sites: the temporary storage of chassis-mounted containers on the site of Tank Farm Site 1 by APM, the operator of the adjacent container terminal on Pier 400, and on Tank Farm Site 2 by the APL Terminal at Pier 300 and the Evergreen Terminal farther to the west at Berths 226-236. Although it is possible that different uses of the proposed Project site (e.g., possibly including liquid bulk storage at either site) could be approved at some future date, such future approvals are not known or foreseeable at this time. Thus, to be conservative, this document describes the No Federal Action/No Project Alternative as consisting of container storage use from approximately 2012 through 2040 (i.e., through the entire proposed duration of the proposed Project).

In addition, for analysis purposes, this No Federal Action/No Project Alternative assumes that a portion of the increased demand for imports of crude oil in southern California would be accommodated at existing liquid bulk terminals in the San Pedro Bay Ports, to the extent of their remaining capacities. Some of the crude oil would probably also be accommodated at other existing liquid bulk terminals in the region; however the crude oil would come in smaller vessels. As documented in Section 1.1.3, five marine terminals in the Los Angeles area presently offload crude oil: ExxonMobil (LAHD Berths 238-240), BP (Port of Long Beach Berths 76-78 and Port of Long Beach Berth 121), Tesoro (formerly Shell) (Port of Long Beach Berths 84-87), and Chevron (offshore mooring west of El Segundo). Based on research conducted by PLAMT and reviewed by the USACE and LAHD, only the terminals at Port of Long Beach Berths 76-78 and 84-87, and at LAHD Berths 238-240, had capacity to increase their crude oil throughput as of 2007 (Figure 2-16 shows the locations of these terminals). Port of Long Beach Berth 121 is limited to its current throughput by SCAQMD emissions caps; El Segundo is limited by its current infrastructure and by its SCAQMD

permit. Construction of a second deep draft crude oil terminal also provided redundancy in the case operation of one the facilities becomes inoperable for some period of time.

## **Finding**

The Board hereby finds that the No Federal Action/No Project alternative would not feasibly meet any of the Project Objectives, and on that basis, rejects the No Federal Action/No Project alternative.

## **Facts in Support of Finding**

If the No Project alternative were implemented, the Port would not be able to efficiently meet real and projected increases in crude oil demand. As discussed in SEIS/SEIR Section 1.1.3, the Port of Los Angeles anticipates that there is and will be a significant growth in crude oil demand. Over the past 15 years approximately 6 million bbl of petroleum storage tank capacity has been removed from southern California (CEC 2007b). CEC (2007b) suggests that even as California develops and implements its alternative fuels plans under AB 1007, the additional crude oil storage tank capacity necessary by 2020 to meet California's storage requirements ranges from 5 to 17 million bbl. This estimate does not include additional storage tank capacity needed for refined products, including alternative fuels, which CEC estimates as ranging from 5.4 million to 13.1 million bbl (CEC 2007b).

The need for increased crude oil storage tank capacity is driven by several factors, including the need to reduce supply disruptions in consideration of longer ocean voyages for import tankers; the need to offload larger cargo volumes; and the need to accommodate multiple customers and types of crude oil.

As defined by the USACE and outlined in Section 2.3.2, the purpose and need of the proposed Project, as defined by the USACE and outlined in Section 2.3.2, is to construct a crude oil marine terminal on Pier 400 at Berth 408 and related transfer facilities to receive, store, and convey part of the forecasted increases in the volume of crude oil that will be shipped to southern California by sea. The Port is one of only five locations in the state identified in the Coastal Act (PRC Sections 30700 and 30701) for the purposes of international maritime commerce. Legal mandates of the LAHD and the California Coastal Commission identify the Port of Los Angeles and its facilities as a primary economic/coastal resource of the State and an essential element of the national maritime industry for promotion of commerce, navigation, fisheries, and operations of a harbor. Leaving the premises vacant for any extended time is not consistent with the legal mandates of the Port. Based on existing demand and capacity limitations on industrial Port uses and Trust purposes, all or most of the industrial facilities adjacent to deep water are needed to accommodate maritime commerce.

Under the No Federal Action/No Project Alternative, it is not considered likely that another liquid bulk terminal project would be approved at the site in the foreseeable future, since there is no proposal to do so. Thus, the No Federal Action/No Project Alternative would not meet the Project need under NEPA (Section 2.3.2) to construct and operate a crude oil terminal that maximizes the use of available shoreline and the existing deep-draft waterways created for the purpose by the Deep-Draft Navigation Improvements Project, construct sufficient berthing and infrastructure capacity to accommodate a portion of the foreseeable volumes of crude oil expected to enter southern California from foreign sources, ensure the efficient offloading of Very Large Crude Carriers (VLCCs), or provide terminal accessory buildings and structures to support the anticipated crude oil handling requirements. Nor would the No Federal Action/No Project Alternative meet the Project objectives under CEQA (Section 2.3.1) to establish and maximize the Port's crude oil handling efficiency and capacity, construct a crude oil marine terminal capable of accommodating deep-draft VLCC tankers, construct associated infrastructure capacity that would efficiently accommodate a portion of the forecasted increases in demand for crude oil to be shipped to southern California by sea while

maximizing the use of deep-water facilities created for the purpose by the Deep-Draft Navigation Improvements Project, or integrate into the Port's overall utilization of available shoreline.

Finally, the No Project Alternative would not result in significant reductions of priority air pollutants and would result in significant health risk (Figures 2 and 3) as compared to the proposed Project due to the use of more, smaller vessels, more transit time and more maneuvering and the proximity of the ships/terminals to the community. Thus, the No Project Alternative is not consistent with the Mayor's policy to grow the Port green, which has air quality and health risk reduction as its primary focus. Thus, based on the analyses in Chapter 3, the No Federal Action/No Project Alternative would result in fewer overall environmental impact categories than the proposed Project or the Reduced Project Alternative, but would not reduce air quality impacts compared to the Proposed Project, or meet the overall project purpose or objectives under CEQA.

Thus, based on the analyses in Chapter 3 of the SEIS/SEIR, the No Federal Action/No Project Alternative would result in fewer environmental impacts than the proposed Project or the Reduced Project Alternative, but would not meet the overall project purpose or objectives under NEPA or CEQA.

## **Alternative 2: Reduced Project**

### **Finding**

The Board hereby finds that the Reduced Project Alternative would result in decreased crude oil capacity, and so would not feasibly meet the project objectives. In addition, the Reduced Project Alternative would result in additional air emissions and will therefore not be adopted in lieu of the proposed project.

### **Facts in Support of the Finding**

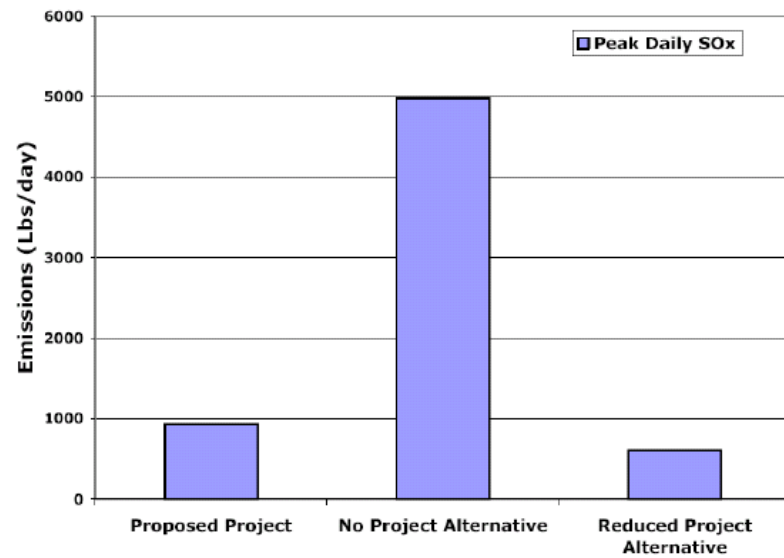
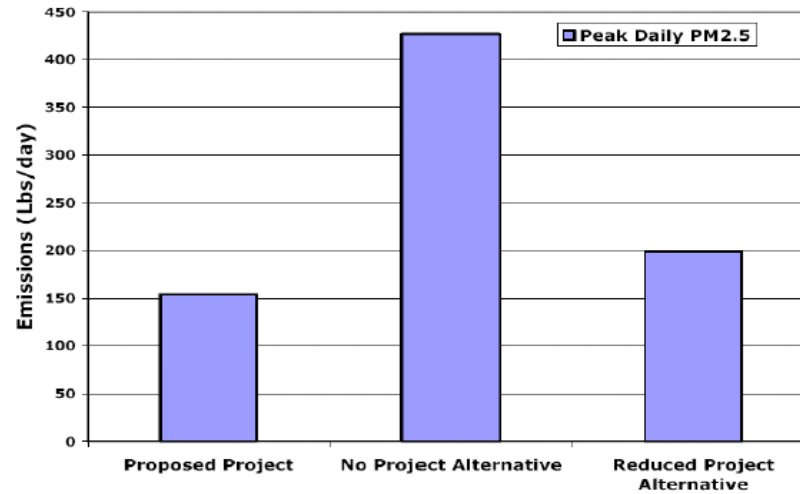
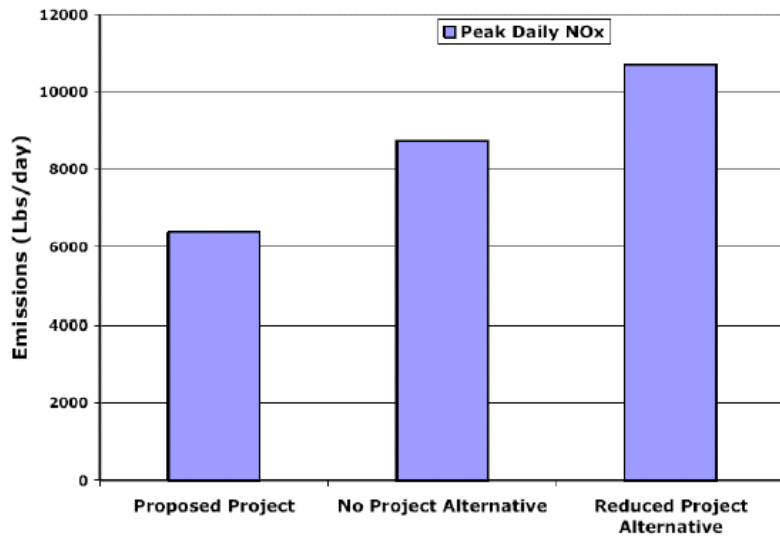
The Reduced Project Alternative would result in construction impacts that would be identical to those of the proposed Project. Operationally, the impacts of the Reduced Project Alternative would be similar to the proposed Project, and identical for some resource areas, but slightly higher in some cases and for some resource areas. For instance, the Reduced Project Alternative would result in a significant unavoidable increase in cancer risk at residential and sensitive receptors, while the proposed Project would result in less than significant increases in cancer risk at all receptors (Figure 3). There is no resource area for which the Reduced Project Alternative would result in lower environmental impacts than the proposed Project (although the geographic dispersion of some impacts, such as health risk impacts, would differ somewhat due to the different operational characteristics compared to the proposed Project). The Reduced Project Alternative would meet the Project purpose and objectives under CEQA Section 2.3 although the lease cap limiting throughput would reduce the degree to which the Reduced Project Alternative would maximize the use of deep-water facilities created by the Deep-Draft Navigation Improvements Project for the purpose of accommodating deep-draft VLCC tankers. As a result, the proposed Project would better accomplish the Project goals and objectives compared to the Reduced Project Alternative.

## **Summary**

Based on the alternatives discussion provided in the Final SEIR and the information above, the Board determines that the Proposed Project is the only feasible alternative that best meets project objectives maximizing Port efficiency and capacity for handling containerized cargo, taking into account environmental and economic factors (see Table 9 in Statement of Overriding Considerations).



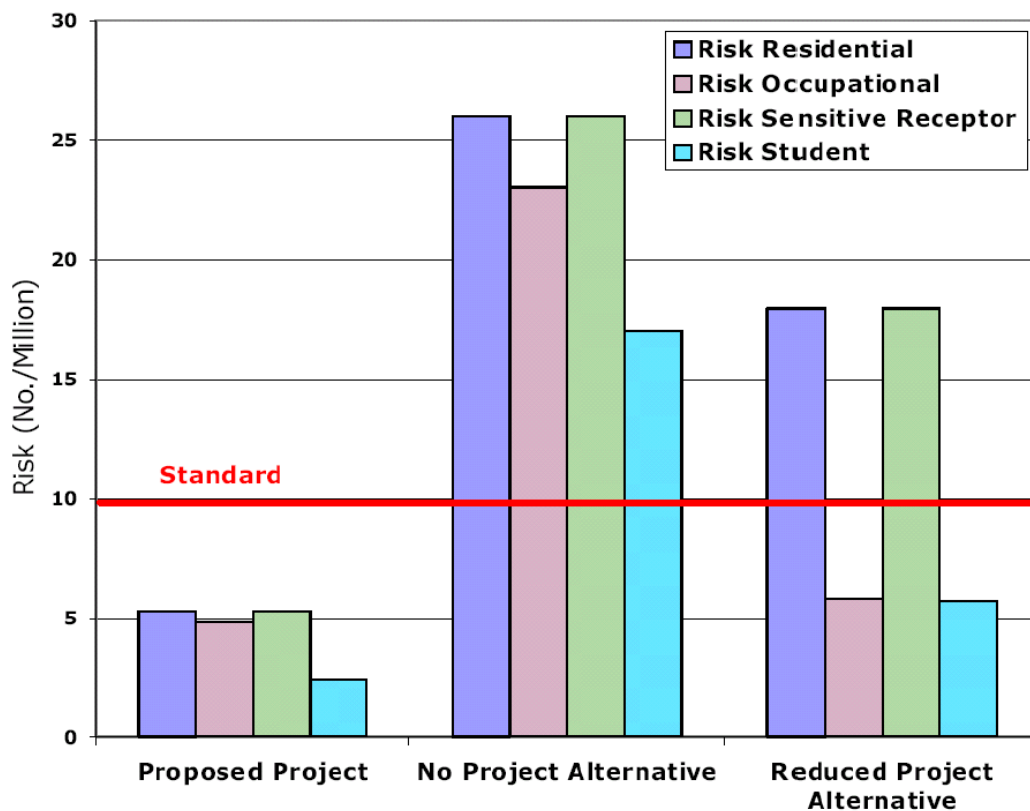
Figure 2. Criteria Pollutant Emissions among Alternatives



**Table 13: Health Risk Comparison Among Alternatives**

<i>Health Impact</i>	<i>Receptor Type</i>	<i>Proposed Project</i>	<i>Mitigated Project</i>	<i>No Project</i>	<i>Mitigated Reduced Project</i>	<i>Significance Thresholds</i>
Cancer Risk	Residential	12	5.3	26	18	10 in a million
	Occupational Area	9.7	4.8	23	5.8	
	Sensitive Receptor	12	5.3	26	18	
	Student	6.9	2.4	17	5.7	
Non-Cancer Chronic Hazard Index	Residential	0.017	0.0095	0.061	0.077	1
	Occupational Area	0.073	0.044	0.078	0.025	
	Sensitive Receptor	0.017	0.0095	0.073	0.087	
	Student	0.012	0.0064	0.073	0.087	
Non-Cancer Acute Hazard Index	Residential	0.04	0.019	0.19	0.05	1
	Occupational Area	0.043	0.026	0.29	0.019	
	Sensitive Receptor	0.04	0.019	0.23	0.066	
	Student	0.028	0.013	0.23	0.066	

**Figure 2. Health Risk Comparison Among Alternatives**



**Table 14. Summary comparison of the Proposed Project and Project Alternatives.**

<b>Project Alternatives</b>	<b>Alt. 1</b>		<b>Alt. 2</b>
	<b>Proposed Project</b>	<b>No Project</b>	<b>Reduced Project</b>
	<b>Projective Objectives</b>	Good	Poor
<b>HRA Thresholds</b>	Good	Poor	Good
<b>Criteria Pollutants</b>	Moderate	Poor	Poor
<b>Other Environ. Effects</b>	Moderate	Poor	Moderate
<b>Economic</b>	Good	Poor	Good

## **IV. Statement of Overriding Considerations**

Pursuant to Section 15093 of the CEQA Guidelines, the Board must balance the benefits of the proposed Project against unavoidable environmental risks in determining whether to approve the project. The proposed project would result in significant unavoidable impacts to Air Quality, Biological Resources, Geology, Noise, Recreation, Risk of Upset and Hazards, and Water Quality Sediments and Oceanography. The proposed project would also result in a cumulatively considerable contribution to significant cumulative impacts to Air Quality, Biological Resources, Geology, Groundwater, Noise, Recreation, Risk of Upset, and Water Quality, Sediments and Oceanography.

### **Air Quality:**

The proposed project would result in significant unavoidable impacts to air quality during construction and operation even with the adoption and implementation of mitigation measures. Specifically, construction emissions would exceed SCAQMD thresholds both with and without mitigation (Impact AQ-1 and AQ-2). In addition, operation emissions would exceed daily SCAQMD thresholds for all years both with and without mitigation (Impacts AQ-3 through AQ-6). Due to lack of clear regulatory guidance, the Port adopted for this project a no net increase significance criteria for GHG emissions. Impacts from GHG emissions would be significant for both construction and all years of operation (Impact AQ-8). The Port will implement mitigation measures for direct impacts that will substantially reduce impacts, however, the impacts would still remain significant and unavoidable (Impacts AQ-1 through AQ-8).

As provided in the Findings above, there will be cumulative air quality construction and operational impacts (see Cumulative Impact AQ-1 through AQ-8) that would remain significant and unavoidable.

### **Biological Resources:**

The operation of the proposed Project could have significant impacts to the California least tern in the event that significant oil spill should occur in Harbor waters that would reduce the population size. Any oil spills into Harbor waters that occur during April through August would have the potential to cause significant, unavoidable impacts to least terns. The operation of the proposed Project could also have significant impacts to eelgrass beds. Impacts of an oil spill in the Harbor that reached eelgrass beds, would be significant in the short term. The Port will implement mitigation measures for direct impacts that will substantially reduce impacts, however, the impacts would still remain significant and unavoidable (Impacts BIO-1.2 and BIO 2.2). Therefore, as provided in the findings above for Impact BIO-1.2 and Impact BIO-2.2, the introduction of invasive species in ballast water or on the hulls of ships are significant, unavoidable impacts.

As provided in the Findings above, there will be cumulative biology impacts (See Cumulative Impact BIO-1, BIO-2 and BIO-4) that would remain significant and unavoidable.

### **Geology:**

In regards to geology, the project site lies in the vicinity of the Palos Verdes Fault Zone. Strands of the fault may pass beneath the perimeter and immediately west of the proposed Project area, in the vicinity of Pier 400. Strong-to-intense ground shaking, surface rupture, and liquefaction could occur in these areas, due to the location of the fault beneath the proposed Project area and the presence of water-saturated hydraulic fill. An earthquake within this fault zone could cause strong-to-intense

ground shaking, and surface rupture. As discovered during the 1971 San Fernando Earthquake and the 1994 Northridge Earthquake, existing building codes are often inadequate to protect engineered structures from hazards associated with liquefaction, ground rupture, and large ground accelerations. Consequently, designing new facilities based on existing building codes may not prevent significant damage to structures from a major or great earthquake on a nearby fault. Therefore, as provided in the findings above for Impact GEO-2, seismic hazards related to future major or great earthquakes are significant, unavoidable impacts.

As provided in the Findings above, there will be cumulative geology impacts (See Cumulative Impact GEO-1 and GEO-2) that would remain significant and unavoidable.

### **Noise:**

The proposed Project would result in significant noise impacts during construction (NOI-1). Construction of the proposed Project is projected to result in ambient average noise increases of 5dB(A) or greater at sensitive receptors. In addition, noise from pile driving would be audible and may be perceived as intrusive or annoying by some individuals, even with mitigation required in the 1992 Deep Draft FEIS/FEIR. Therefore, under CEQA Impact NOI-1 would be significant. Considering the distances between the construction noise sources and receivers, the standard controls, and temporary noise barriers may not be sufficient to reduce the projected increase in the ambient noise level to the point where it would no longer cause a substantial increase. With implementation of these measures, construction equipment noise levels generated at the construction sites could substantially exceed existing ambient noise levels. Thus, impacts to sensitive receptors will remain significant even after mitigation. While MM 4H-1 through 4H-3 and MM NOISE1 through Noise 3 would reduce potential impacts, impacts remain significant and unavoidable. Incorporation of these mitigation measures, however, would not reduce noise impacts during construction impacts below the level of significance. Specific technological considerations make infeasible additional mitigation measures or project alternatives. Therefore, as provided in the findings above for Impact NOI-1, construction noise related to pile driving is a significant, unavoidable impact.

As provided in the Findings above, there will be cumulative noise impacts (See Cumulative Impact NOI-1) that would remain significant and unavoidable.

### **Recreation:**

The proposed Project would result in significant noise impacts during construction which would have a significant impact on recreational receptors (REC 1.1). In addition, proposed operations would significantly impact the quality of recreational and visitor-oriented resources and potentially result in a loss of recreational resources relative to the CEQA Baseline in the event of an oil spill (REC 1.2).

Pile driving associated with Pier 400 construction and pipeline construction at some locations could be perceived by some to significantly diminish the quality of recreational experience. Therefore, CEQA impacts related to REC-1.1 would be significant. Mitigation measures MM NOISE1 and NOISE-2 will reduce noise from pile driving but impacts are still considered significant and unavoidable. Incorporation of this mitigation measure, however, would not reduce noise impacts during construction impacts below the level of significance. Specific technological considerations make infeasible additional mitigation measures or project alternatives. Therefore, as provided in the findings above for Impact REC 1.1, construction noise related to pile driving is a significant, unavoidable impact.

Proposed operations at the Marine Terminal at Pier 400, tank farm sites, and pipeline corridors would significantly impact the quality of recreational and visitor-oriented resources and potentially result in a loss of recreational resources relative to the CEQA Baseline in the event of an oil spill. Therefore, CEQA impacts related to REC-1.2 would be significant. MM RISK-2.1a (Double-Hulled Vessels) and MM RISK-2.1b (Quick-Release Couplings) would lower the risk of an accidental oil spill. However, no measures can eliminate the risk entirely. Incorporation of this mitigation measure, however, would not reduce noise impacts during construction impacts below the level of significance. Specific technological considerations make infeasible additional mitigation measures or project alternatives. Therefore, as provided in the findings above for Impact REC 1.2, impacts to recreation in the event of an oil spill are a significant, unavoidable impact

As provided in the Findings above, there will be cumulative recreation impacts (See Cumulative Impact REC-1) that would remain significant and unavoidable.

### **Risk of Upset and Hazards:**

The proposed Project would result in significant impacts to Risk of Upset and Hazards in the event of an oil spill (RISK 1.2). In addition, the potential consequences of a terrorist attack on the Pier 400 facilities are considered Major (RISK 5).

Proposed operations at the Marine Terminal at Pier 400, tank farm sites, and pipeline corridors would significantly impact the quality of recreational and visitor-oriented resources and potentially result in a loss of recreational resources relative to the CEQA Baseline in the event of an oil spill. Therefore, CEQA impacts related to REC-1.2 would be significant. MM RISK-2.1a, RISK-2.1b and RISK-2.1c would lower the risk of an accidental oil spill. However, no measures can eliminate the risk entirely and impacts remain significant and unavoidable. Incorporation of this mitigation measure, however, would not reduce Risk impacts below significance. Therefore, as provided in the findings above for Impact RISK 1.1, impacts to recreation in the event of an oil spill are a significant, unavoidable impact.

Potential consequences of a terrorist attack on the Pier 400 facilities are considered Major since the potential for a small number of offsite injuries are possible in the event of a successful attack. Potential thermal radiation and explosion overpressure levels do not result in the overlap of any existing, planned, or permitted vulnerable resources, but the potential for limited public exposure along the Port waterways is possible. The likelihood of a successful terrorist attack, and the key here is the likelihood of both an attack occurring and that it is successful, is considered fairly low. However, potential impacts related to terrorism risk would be considered significant given the environmental and public safety consequences associated with a successful terrorist attack. A variety of programs are in place at the Port to reduce potential terrorist threats. The Berth 408 operators would be required to participate in these programs, thus further minimizing the risk associated with terrorism. For the proposed Project this would include vehicle barriers, site control and regular patrols. No additional mitigation is possible and impacts remain significant and unavoidable. Therefore, as provided in the findings above for Impact RISK 5, the potential environmental impacts associated with a terrorist act are a significant, unavoidable impact.

As provided in the Findings above, there will be cumulative risk impacts (See Cumulative Impact RISK-2 and RISK-5) that would remain significant and unavoidable.

### **Water Quality Sediments and Oceanography:**

In regards to impacts on water quality, stormwater runoff from the project site could contain particulate debris from operation of the project facilities. Discharges of stormwater would comply with the NPDES discharge permit limits. However, there is potential for an increase in incidental spills and illegal discharges at the facilities and due to increased vessel calls at the facility. Leaching of contaminants such as copper, from anti-fouling paint could also cause increased loading in the harbor which is listed as impaired with respect to copper. Therefore as provided in the findings above for WQ-1, the impact to water quality from in-water vessel spills, discharges and leaching is significant under CEQA. The Port will implement mitigation measures that would substantially reduce impacts, however, the impacts would still remain significant and unavoidable.

As provided in the Findings above, there will be cumulative water quality impacts (See Cumulative Impact WQ-1) that would remain significant and unavoidable.

## **Project Benefits**

The proposed project offers several benefits that outweigh the unavoidable adverse environmental effects of the project. The Board of Harbor Commissioners adopts the following Statement of Overriding Considerations. The Board recognizes that significant and unavoidable impacts will result from implementation of the Project, as discussed above. Having (i) adopted all feasible mitigation measures, (ii) rejected as infeasible alternatives to the Project discussed above, (iii) recognized all significant, unavoidable impacts, and (iv) balanced the benefits of the Project against the Project's significant and unavoidable impacts, the Board hereby finds that the benefits outweigh and override the significant unavoidable impacts for the reasons stated below.

The below stated reasons summarize the benefits, goals, and objectives of the proposed Project and provide the rationale for the benefits of the Project. These overriding considerations justify adoption of the Project and certification of the completed Final SEIR. Many of these overriding considerations individually would be sufficient to outweigh the adverse environmental impacts of the Project. These benefits include the following:

- **Fulfills Port legal mandates and objectives.** The proposed Project would fulfill the Port's Tidelands Trust to promote and develop commerce, navigation and fisheries, and other uses of statewide interest and benefit including industrial, and transportation uses (Draft SEIS/SEIR Table 2-16). The Coastal Act identifies the Port as an essential element of the national maritime industry and obligates the Port to modernize and construct necessary facilities to accommodate deep-draft vessels and to accommodate the demands of foreign and domestic waterborne commerce and other traditional and water dependent and related facilities in order to preclude the necessity for developing new ports elsewhere in the state (see Draft SEIS/SEIR Table 2-16). Further the Coastal Act provides that the Port should give highest priority to the use of existing land space within harbors for port purposes, including, but not limited to navigational facilities, shipping industries and necessary support and access facilities. The proposed Project fulfills the objectives identified for Pier 400 in the Deep Draft EIS/EIR. The project would also meet the Mayor's goal and the Port's strategic objectives including the goal to "grow the Port green" (see Draft SEIS/SEIR Table 2-16) which for this project includes maximizing the efficiency and the capacity of facilities, including mitigation measures that adhere to and/or exceed CAAP requirements, maintaining financial self-sufficiency through the long term lease while raising environmental standards and protecting for public health. The strategic plan also calls for developing more and higher quality jobs. The Proposed Project provides significant high quality

operational and construction employment while still providing for long-term air quality improvements as provided below.

- **Includes energy efficiency in building/construction/operation.** The proposed Project includes construction of a Leadership in Energy and Environmental Design (LEED) certified “Gold” administration building and other efficiency measures including: use of compact fluorescent light bulbs, conducting third-party energy audits, use of solar panels on the main terminal building, implementing recycling and planting trees around the main building. LEED-certified buildings will be more energy efficient, thereby reducing GHG emissions compared to a conventional building design ( SEIS/SEIR Section 3.2)
- **Implements the San Pedro Bay Clean Air Action Plan (CAAP).** Project-specific standards implemented through CEQA are one of several mechanisms for meeting CAAP requirements (see CAAP Executive Summary p. 23). For Project Specific Standards identified in the CAAP, the project meets the 10 in a million excess residential cancer risk threshold (see below), implements feasible mitigation measures to meet SCAQMD significance thresholds for facility operation (see Impacts AQ-1 through AQ-8 in Section 3.2 of the Draft SEIS/SEIR and Findings above for feasibility discussion). The Project is also in compliance with the CAAP source specific standards for ships as described in Final SEIR Table 3.2-24 and the Port’s Sustainable Construction Guidelines.
- **Reduces estimated health risk from terminal operation relative to the No Project Alternative.** Project operations will cause a cancer health risk of less than 10 in 1 million, which is the threshold of significance identified in the SEIS/SEIR. Project operations will also reduce the estimated cancer risk for sensitive, student and recreational receptors below existing levels by increments of 4.8 in a million, 5.3 in a million and 2.4 in a million respectively, at the maximum predicted impact location (Table 12). Failure to approve the project would result in higher risk numbers and overall emission of priority pollutants.
- **Provides new jobs during the life of the project.** Net changes in employment attributable to terminal operations under the proposed Project could reach 190 jobs annually over the No Project conditions by the year 2038 (Table 15). Aggregate wages and salaries would total about \$10.76 million annually by 2038. This equates to an average annual wage or salary for each project-related worker (both direct and secondary) of over \$50,000 per year (in 2005 dollars) (Table 15)
- **Provides new construction jobs.** Construction would result in a maximum annual employment of over 1,700 jobs (direct and secondary) (Table 15). Aggregate wages and salaries would reach over \$81.92 million annually. This equates to an average annual wage or salary for each worker related to the proposed project (both direct and secondary) of over \$46,000 per year (2005 dollars) (Table 15). Absent construction contract approvals associated with this project, there would be minimal construction, and therefore minimal jobs.
- **Approval of a lease with terminal operator will provide Harbor Fund Revenues.** The Plains terminal operation will generate approximately revenues to the Port of Los Angeles over the life of the project. These funds are included in the Harbor Revenue fund for the purposes of operating, maintaining and improving the Port in accordance with the Tidelands Trust. Revenues from Container Terminal operation also provides for environmental improvements, including incentive programs associated with the CAAP for reduction of truck emissions and advancing clean technology, and form the basis for the ability to construct infrastructure necessary to implement waterfront commercial and recreational improvements in Wilmington and San Pedro.



- **The project would provide tax revenues.** Annual tax revenues contributed from construction for would reach \$13.4 million. Annual tax revenues contributed from operation would reach \$1.75 million.
- **Efficient Accommodation of Increased Throughput.** In accordance with project objectives, the proposed project provides for improved efficiencies in the accommodation of crude oil in the following ways: It would not be possible to achieve these efficiencies or to reach maximum terminal capacity absent implementation of these improvements through project approval.

In summary, the Project will allow the Port to meet its legal mandates to accommodate growing international commerce, while reducing Port air emissions, and provide jobs to the local economy. The Board hereby finds that the benefits of the proposed project described above outweigh the significant and unavoidable environmental effects of the project, which are therefore considered acceptable.

**Table 15. Wages and Tax Revenues**

<b>Plains All American Construction</b>									
	No. Workers			Wages (in Millions)			Tax Revenues (in Millions)		
<b>Alternative</b>	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total
Proposed Project	732	1,035	1,767	40.63	41.29	81.92	6.64	6.75	13.39
Reduced Project	732	1,035	1,767	40.63	41.29	81.92	6.64	6.75	13.39
No Project	40	56	96	2.22	2.23	4.45	0.36	0.37	0.73
<b>Operation</b>									
	No. Workers			Wages (in Millions)			Tax Revenues (in Millions)		
<b>Alternative</b>	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total
Proposed Project	54	158	212	3.87	6.88	10.76	0.63	1.12	1.75
Reduced Project	61	178	239	4.38	7.75	12.13	0.72	1.27	1.99
No Project	10	12	22	0.72	0.52	1.24	0.12	0.09	0.21

